Appendix 5-I

Cut and Fill Calculations

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CUT AND FILL CALCULATIONS

INTRODUCTION

This Appendix discusses the mass balance calculations for Reclamation Areas TS-3 through TS-9, and includes the cross-sectional representations in order to demonstrate that there is adequate volumes of fill and soil material for projected reclamation and revegetation plans. The reclamation areas are depicted on Plates 2-3. A full discussion of substitute topsoil (plant growth material) material is found in R645-301-224. Revegetation is discussed in Chapter 3.

Plates 5-6 show the contours which these cross-sections are based on. Much of the final contours on Plate 5-6 are at five and ten ft. intervals. In flatter areas contours have been drawn at 2 ft. intervals. Although every effort has been made to accurately depict final contours, the final configuration may vary according to the equipment used and the abilities of the operator. In all cases the final contours will meet safety and reclamation standards, and provide for adequate and stable drainage.

In some parts of TS-7 slopes greater then the maximum stable slope would be required in order to fill the entire cut made for the road. In these areas the maximum stable slope of 1.5H:1V will be used starting at the outer base of the berm and extending as far up the initial road cut as it can. In some of the cross-sections a small portion along the top of the initial road cut will remain (0-8 ft) as shown on the TS-7 cross-sections 4+00 and 6+00. Cuts, which will remain, are shown on plate 5-6. All highwalls, which

are located in TS-6 section 24+00, and TS-7 sections 0+00, 3+00, and 5+00, will be eliminated during reclamation.

COAL WASTE VOLUME (TS-5)

Coal waste is generated as a result of coal storage and sediment pond clean-out activities. This material is not suitable for substitute topsoil material, and will be covered with a minimum of 4' of other material, including 12" of substitute topsoil material. All of this material will be re-graded and covered within TS-5.

In addition, the volume of concrete to be disposed of within TS-5 has also been shown in the volumetric calculations. Concrete will be covered with a minimum of 2' of soil, including 12" of substitute topsoil material. These values have been determined from volumes shown in Chapter 2.

Calculation of Coal Waste Volume

Coal Storage Waste:

Assume one foot deep across the coal storage pad and 6" deep over the tipple yard.

Coal Storage Waste Area:

Volume at main storage	=	(1')(720')(180'+120')/2	=	108,000 cu. ft.
Volume covering tipple	=	(0.5')(45,060 sq. ft.)	=	22,530 cu. ft.
Total Volume	=	130,530 cu. ft.	=	**4,834 cu. yd.**

Sediment:

Sediment values were taken from the sediment pond designs shown in R645-301-732.210. Sediment values used for design of sediment ponds are conservative. Therefore, for the purpose of calculating waste volumes, eighty percent of these values were used. The life of the mine will be approximately twenty-seven years.

Sediment Area:

Volume (Pond A)	=	(.80)(27)(3,848 cu. ft.)	=	83,117 cu. ft.
Volume (Pond B)	=	(.80)(27)(213 cu. ft.)	=	4,601 cu. ft.
Volume (Pond C	=	(.80)(27)(126 cu. ft.)	=	2,722 cu. ft.
Total Volume	=	90,440 cu. ft	=	**3,350 cu. yd.**

Concrete:

Volume = 8,041 cu. yd. (from Section 3.6.8)

Total Wash Volume:

Volume of Coal Waste	=	4,834 cu. yd.
Volume of Sediment	=	3,350 cu. yd.
Volume of Concrete	=	8,041 cu. yd.
Total Volume	=	**16,503 cu. yd**

SUBSTITUTE TOPSOIL MATERIAL

The substitute topsoil material that will be used is included in the cut volumes. Chapter 2, R645-301-224, describes the source of all substitute topsoil and it's use during reclamation.

CUT AND FILL VOLUMES

Areas TS-3, TS-4, and TS-9 will balance within themselves and no material will be hauled in or out of the Areas. Fill material generated in Areas TS-5 and TS-6 will be hauled to Areas TS-7 and TS-8 and the four areas will balance together. A total additional volume of 14,948 cu. yd. will be needed in TS-7 and TS-8.

Cut and fill volumes were measured using "Quicksurf" Version 4.0 3-D modeling software package, copyright 1991, Schreiber Instruments, Inc. Volumes are based on the contours on Plates 5-6 and Plates 5-2. Quicksurf was also used to generate the cross-sections which were then used to calculate the amount of substitute topsoil that was generated with each of the cuts.

Table 5I-1 shows the summarized cut and fill volumes for each section. The following pages show detailed cut and fill tables as well as cross-sections for each area. Plates 5-6 and 2-3 show the location of the cross-sections for areas TS-3 through TS-9. R645-301-240 describe the topsoil depths and there sources.

Table 5I-1 - Cut and Fill Summary
Areas TS-3 Through TS-9

Area	Fill (-) Volume (cu. yd.)	Cut (+) volume (cu. yd.)	Excess Volume (cu. yd.)[1]
TS-3	1,454	1,468	14
TS-4	3,460	3,473	13
TS-5	25,157	40,585	15,428
TS-6	5,573	8,126	2,553
TS-7	18,037	6,445	-11,592
TS-8	7,022	3,666	-3,356
TS-9	5,851	5,889	38
Cumulative Balanced Volume (cu. yd.) =			3,098

[1] An excess volume of 3,098 cu. Yds. will be generated based on the contours shown on Plates 5-6. This excess is generated in Reclamation Area TS-5, and demonstrates that there is adequate material for reclamation. During reclamation, actual contours in TS-5 can be varied in the areas of cut to eliminate this excess cut. This excess material may also be used to cover any soil found to be unsuitable at the time of reclamation.

TS-3 Sediment Pond B and Scale House Pad

To reclaim Sediment Pond B, the West embankment will be removed and used as fill material. Additional substitute topsoil material will come from the removal of culvert C-10U.

To reclaim the Scale House Pad, culvert C-10U will be removed leaving the original stream and embankment, and any asphalt will be removed from the Mine Access Road. The existing Mine Access Road will be fitted with drainage controls as shown in Appendix 7-H and left in place for post-mining access. The remaining areas within the Scalehouse Pad will be ripped and the existing substitute topsoil material will be used in place. A summary of the cut and fill volumes is shown in Table 5I-2.

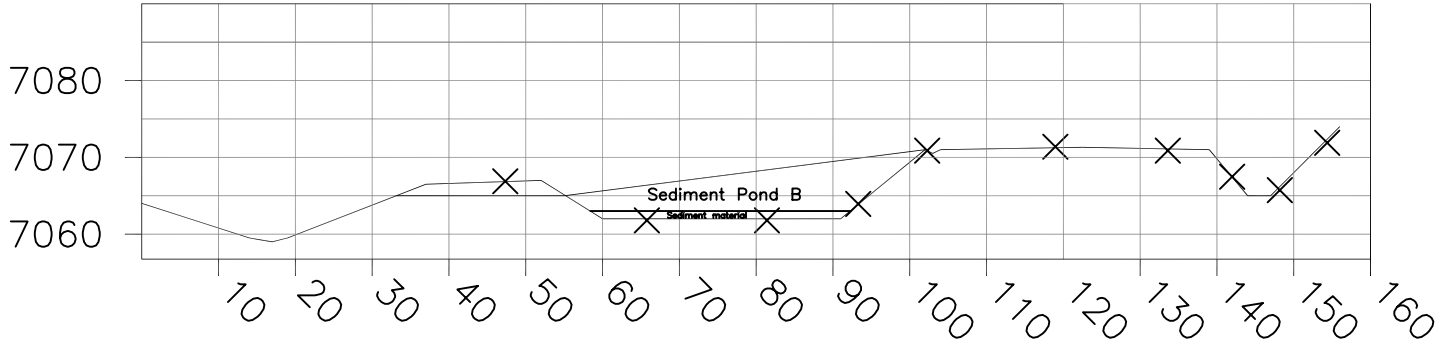
Table 5I-2 - Area TS-3 Cut & Fill Summary

	Fill (-) Volumes (cu. yd.)	Cut (+) Volumes (cu. yd.)			**Volume Cumulative (cu. yd.)**
Section	**Total Fill Volume**	Substitute Topsoil	Regular Soil	**Total Cut Volume**	
A-A	**1054***	190	0	**190**	**-864**
B-B	**400**	668	610	**1,278**	**14**
Totals	**1,454**	858	610	**1,468**	

* It is assumed that sediment Pond B would contain 82 cu. yd. of sediment at the start of reclamation. The actual volume may vary slightly.

SECTION A–A
SEDIMENTATION POND "B"

——— PRE/POST–MINING
–X–X–X– OPERATION

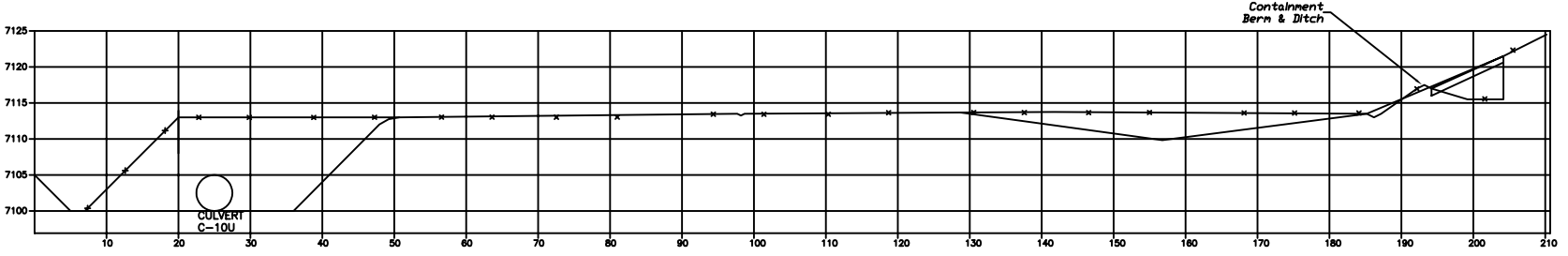


SECTION B–B

SCALE HOUSE PAD CULVERT

PRE–MINING/POST–MINING

OPERATION



TS-4 Sediment Pond A

The embankment on each side of the Sediment Pond will be cut to original contour. The fill generated will be used as fill material and substitute topsoil material. The cut and fill amounts within TS-4 will balance.

Table 5I-3 - Area TS-4 Cut & Fill Summary

	Fill (-) Volumes (cu. yd.)	Cut (+) Volumes (cu. yd.)			**Volume Cumulative (cu. yd.)**
Section	**Total Fill Volume**	Substitute Topsoil	Regular Soil	**Total Cut Volume**	
C-C	**3,460**	1,008	2,465	**3,473**	**13**

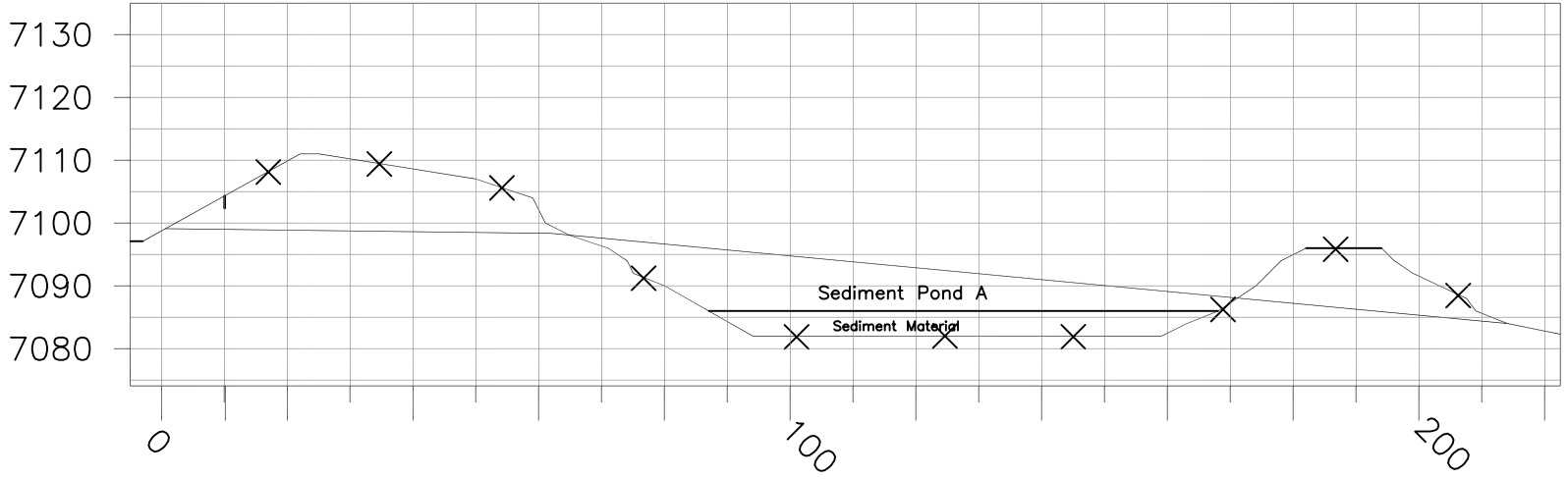
* It is assumed that Sediment Pond A would contain 878 cu. yd. of sediment at the start of reclamation. The actual volume may vary slightly.

SECTION C–C

SEDIMENT POND "A"

PRE–MINING/POST–MINING

OPERATION



TS-5 Tipple and Load-out Area

The tipple and load-out area will be reclaimed to match the contours shown on Plate 5-6C, although actual contours may vary somewhat to account for required cut volumes and onsite concrete disposal. The excess coal waste will be used as fill in this area and will be buried a minimum of 4' deep, with a minimum of 12" of substitute topsoil material applied on the surface. In sections 3+00 through 8+00 the existing road on the east side will be left in place for post mining access as shown on Plate 5-6C. Where no re-grading is required, and in areas were the cut leaves at least 12" of substitute topsoil material, the area will be ripped and existing substitute topsoil material will be used in place. 15,428 cu. yd of material can be generated in TS-5 for use in TS-7 and TS-8, which exceeds the volume needed as shown in Table 5I-1. 1,000 yds^3 of this material will go to TS-17 as described on page 5K-7.

The west slope of the tipple area, shown in cross-section 9+00, will be filled to cover the coal waste which exists in the area. Soil and substitute topsoil from the coal storage pad will then be placed over the coal waste as shown in cross-section 9+00. The slope below the tipple pad will consist of removing coal waste material and replacing it with substitute topsoil material. Although the removing and replacing results in a minimal change in the cross-section and contours, the volumes in Table 5I-4 reflect the removal and replacement of this material.

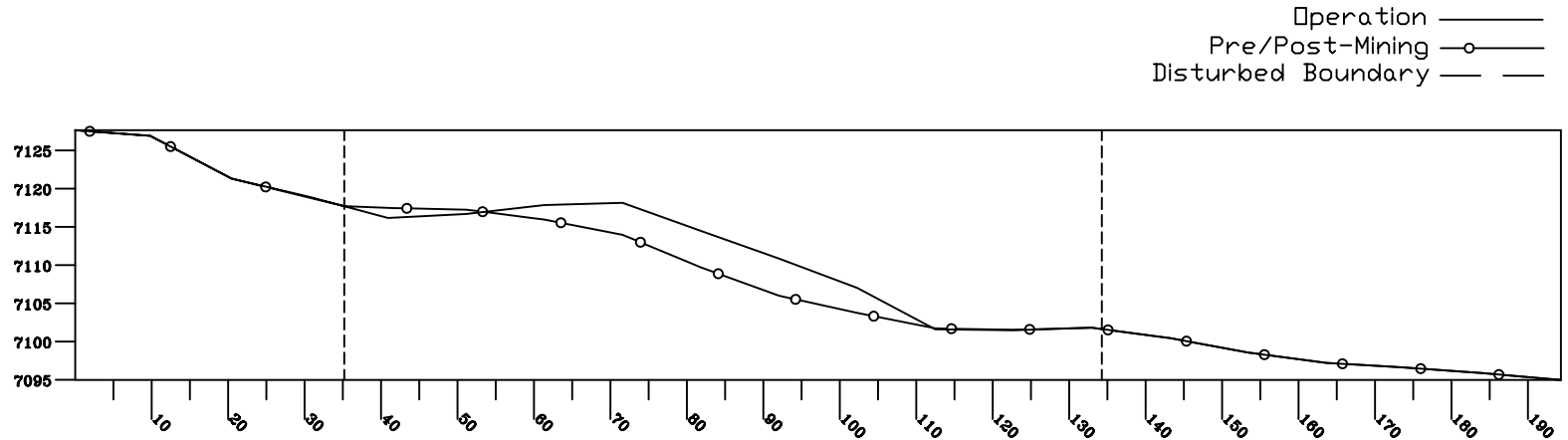
A summary of the cut and fill volumes is shown in Table 5I-4.

Table 5I-4 - Area TS-5 Cut & Fill Summary

	Fill (-) Volumes (cu. Yd.)					Cut (+) Volumes (cu. yd.				**Volume**
Section	Min. required[1]	Soil	Coal Waste / Sediment	Concrete	**Total Fill Volume[2]**	Substitute Topsoil	Other Soil	Coal Waste / Sediment	**Total Cut Volume**	**Cumulative (cu. yd.)**
0+00	0	89	0	0	**89**	304	407	0	**711**	**622**
1+00	0	44	0	0	**44**	1,148	3,311	0	**4,459**	**5037**
2+00	452	690	0	210	**690**	452	100	0	**552**	**4899**
3+00	385	596	209	325	**805**	359	189	0	**542**	**4642**
4+00	741	1,182	813	590	**1,995**	2,351	0	412	**2,763**	**5410**
5+00	504	2,316	411	433	**2,737**	6,244	3,457	1,095	**10,796**	**13469**
6+00	1,295	1,322	430	644	**1,752**	3,246	552	1,210	**5,008**	**16725**
7+00	740	989	137	400	**1,126**	359	0	1,004	**1,363**	**16962**
8+00	911	1,326	2,726	763	**4,052**	1,937	892	1,278	**4,107**	**17017**
9+00	3,481	5,145	2,724	3,548	**7,869**	3,193	1,319	2,105	**6,617**	**15765**
10+00	452	630	667	440	**1,297**	923	32	775	**1,730**	**16198**
11+00	415	1,041	0	274	**1,041**	303	0	305	**608**	**15765**
12+00	430	755	0	293	**755**	429	90	0	**519**	**15529**
13+00	480	838	67	121	**905**	244	560	0	**804**	**15428**
Totals		16,973	8,184	8,041	**25,157**	21,492	10909	8,184	**40,585**	

[1] These volumes represent the minimum volume of soil which is required in order to cover the coal waste and concrete material to show that the fill volumes being placed are adequate to cover the coal waste and concrete material.
[2] Fill volumes do not include concrete volumes since concrete disposal on site is provided in separate bond calculations. The volumes are provided here to account for the volumes shown on the cross-sections.

TS-5 Section 0+00



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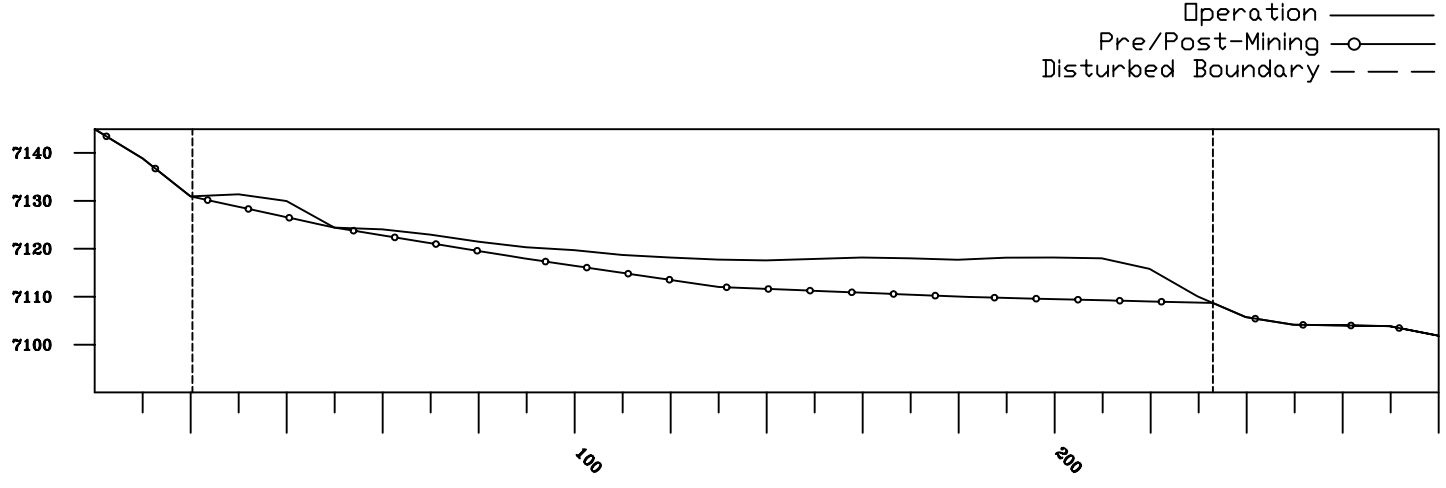

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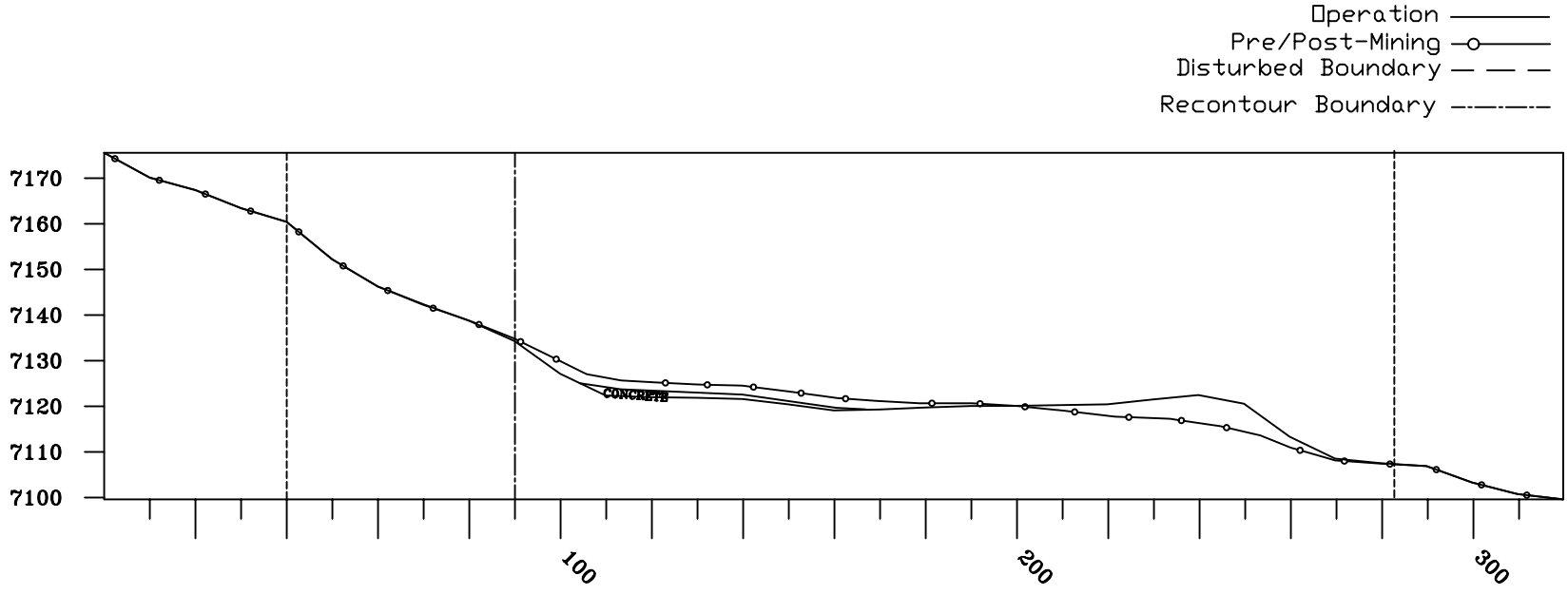
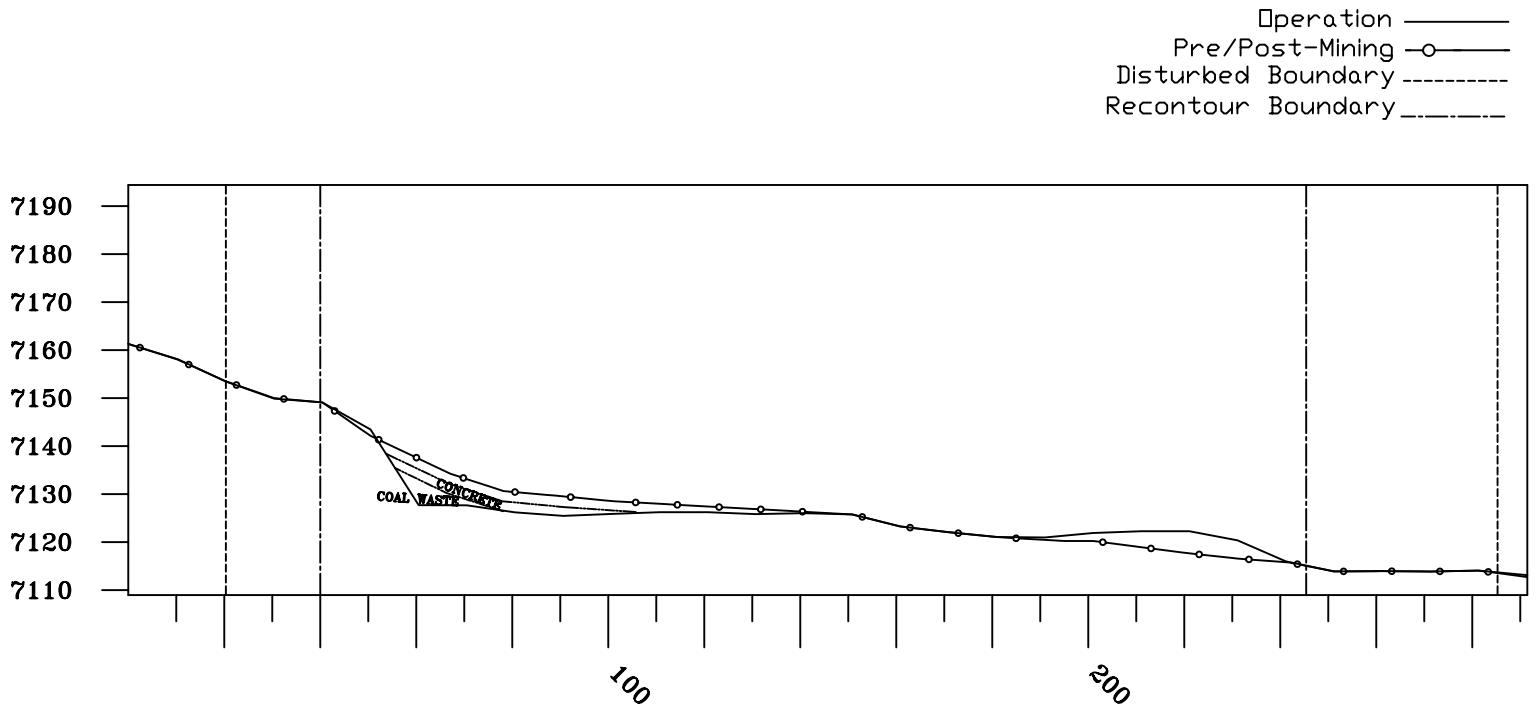


TS-5 Section 3+00



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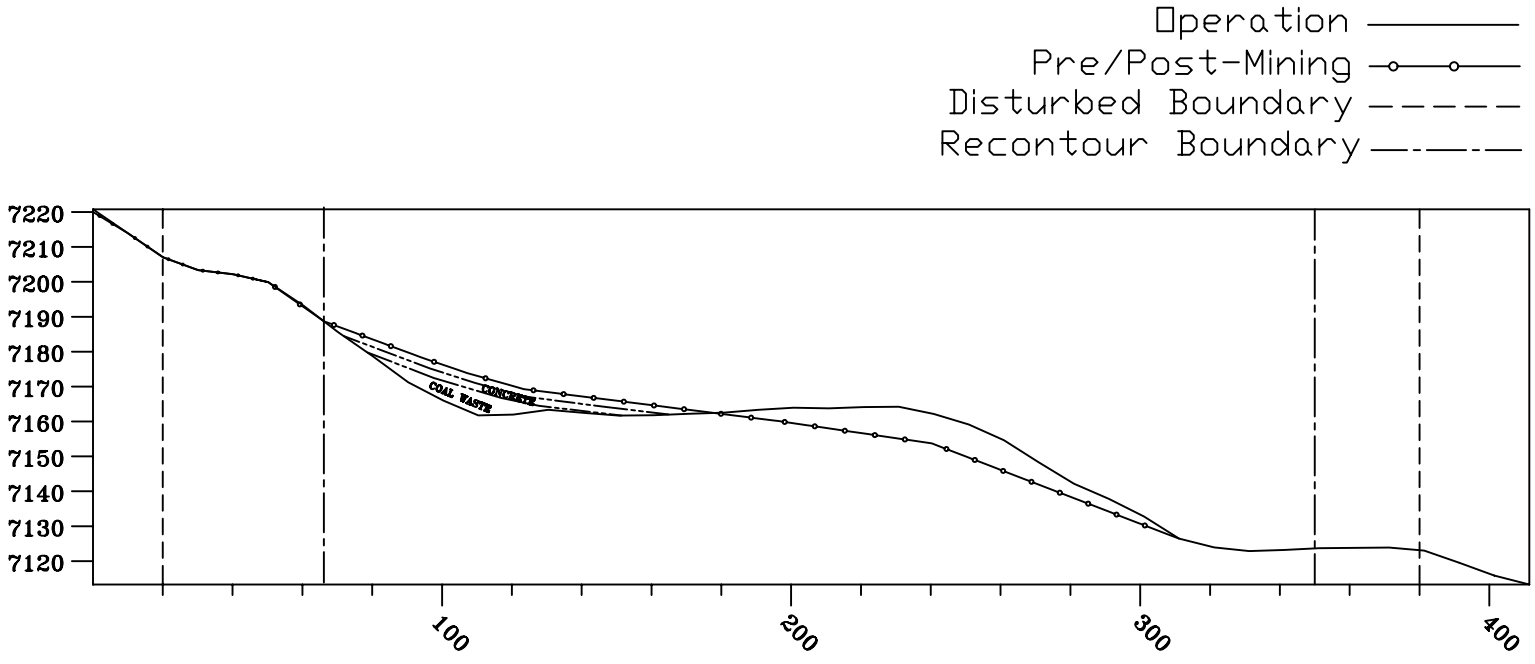

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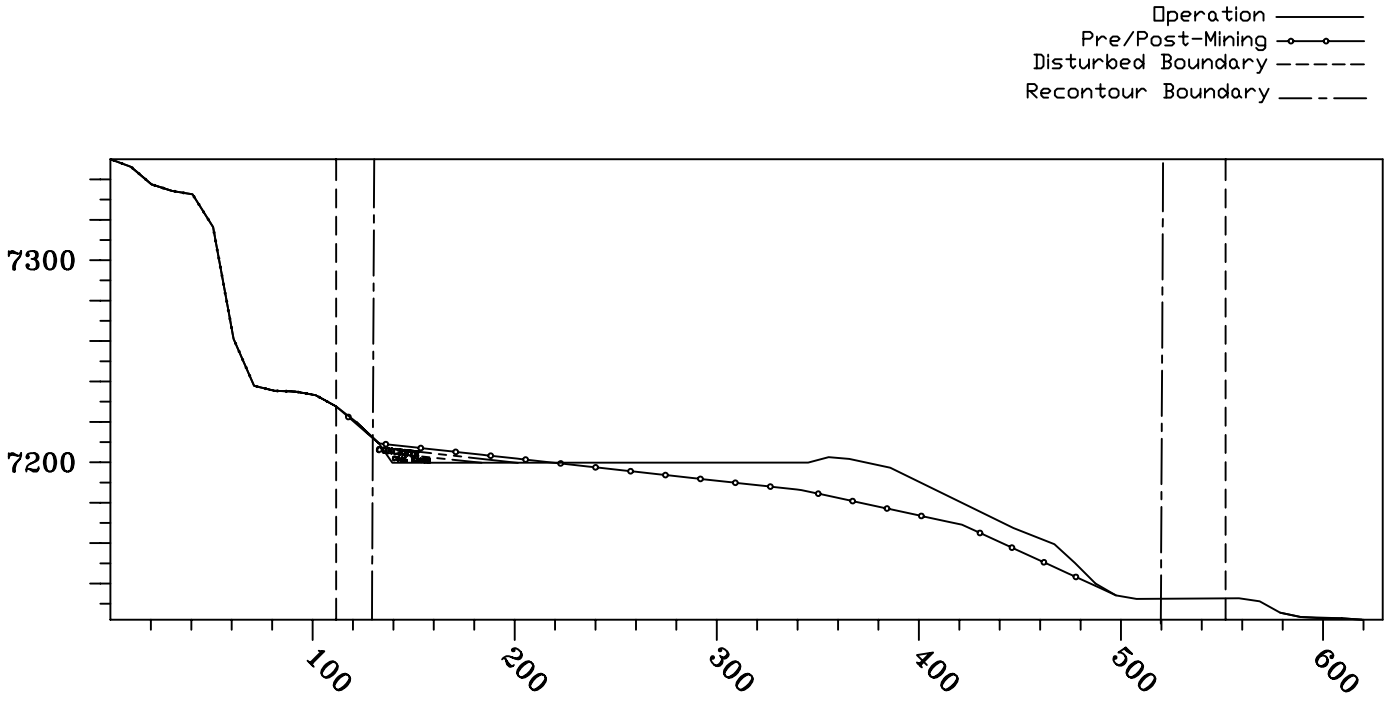

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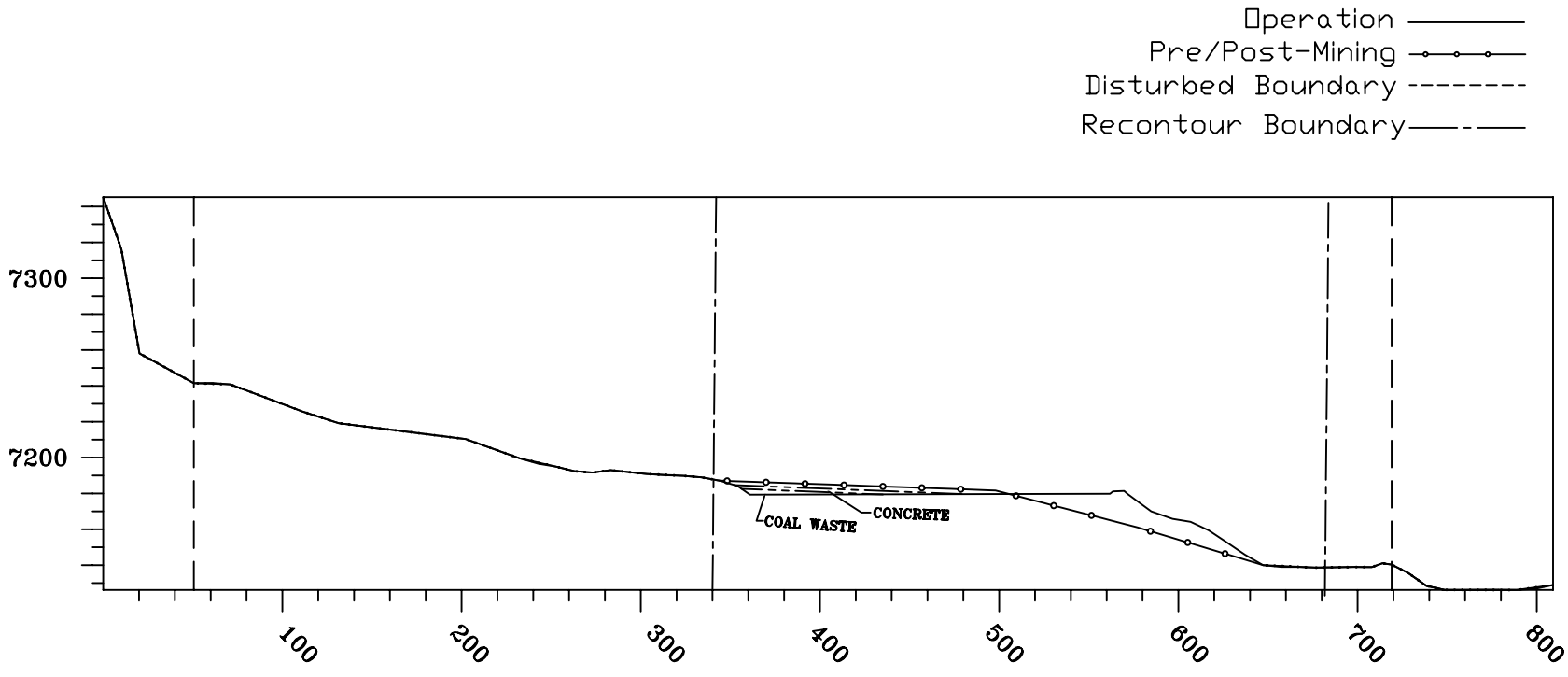

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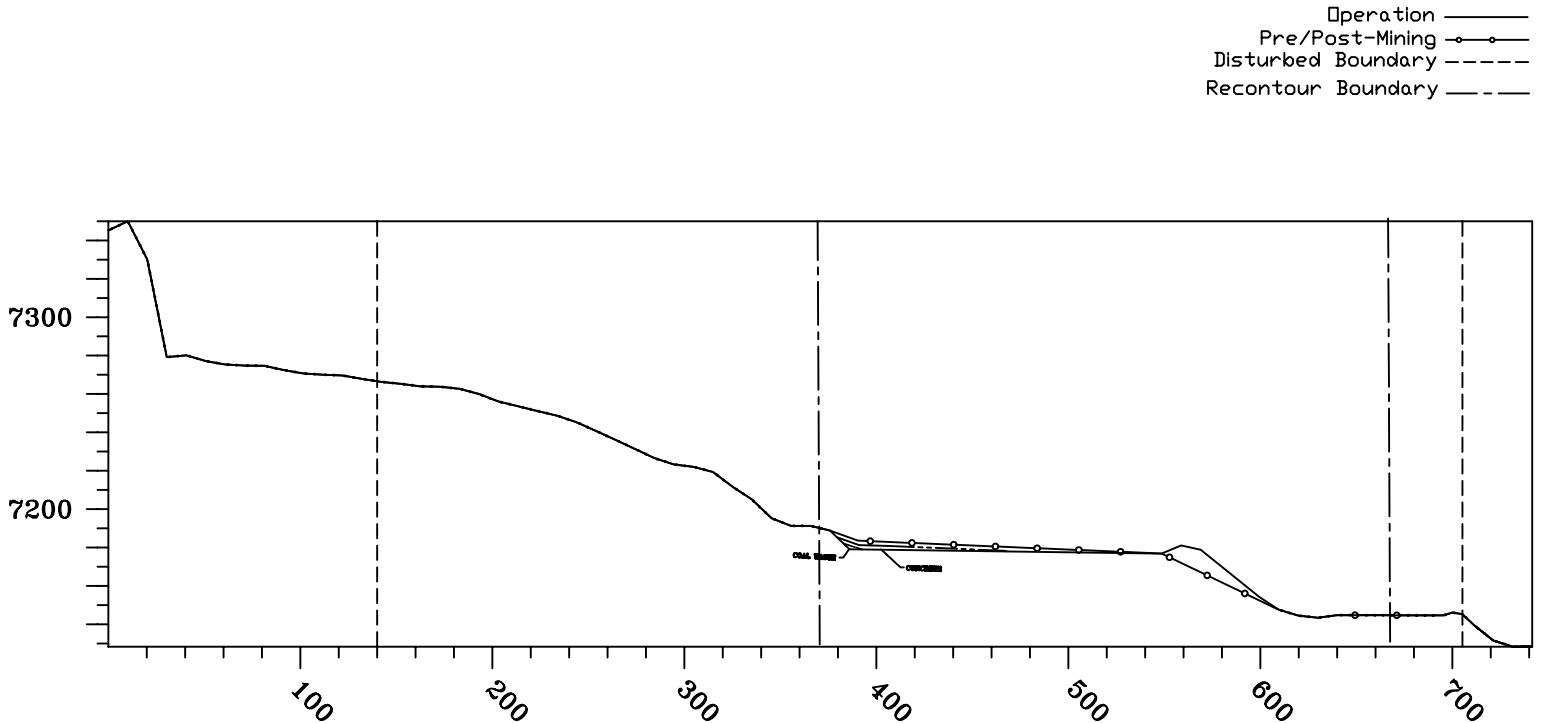

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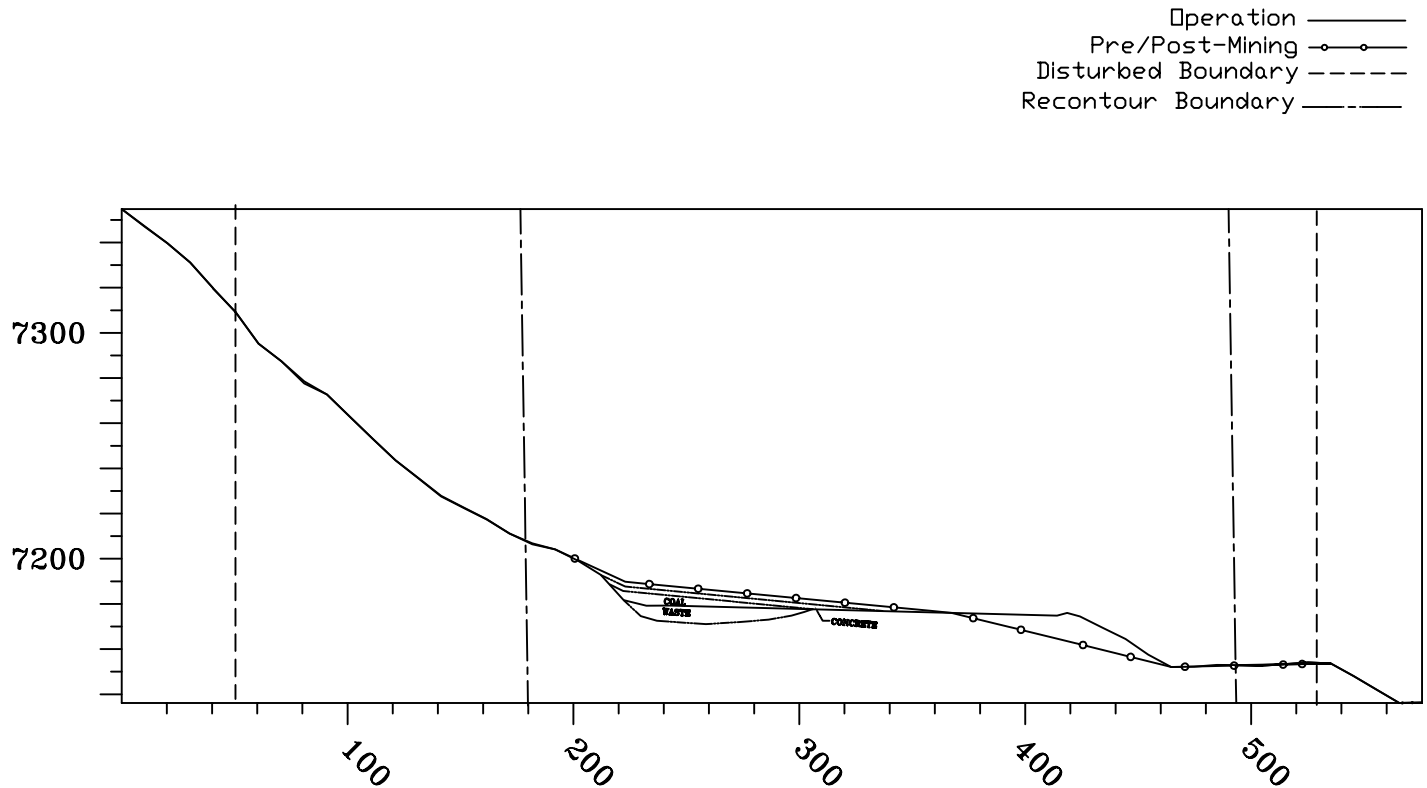

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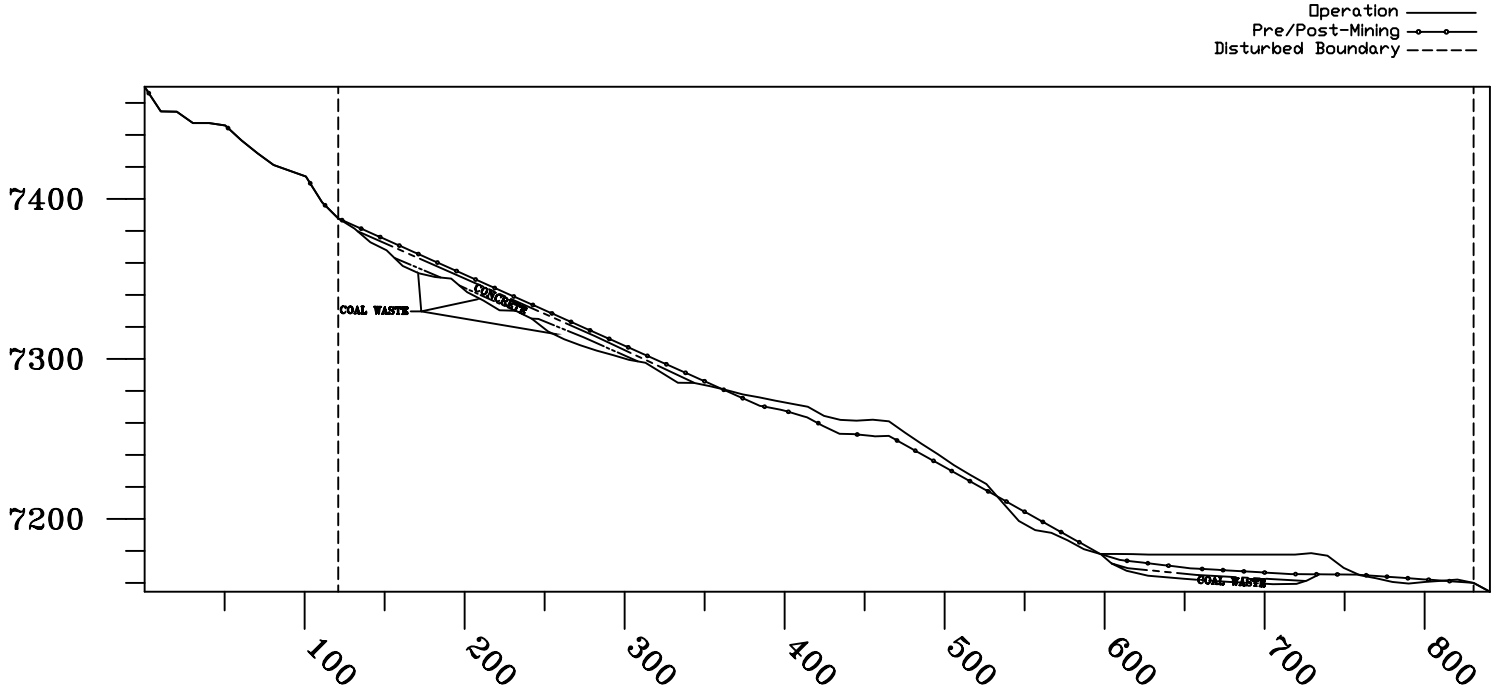

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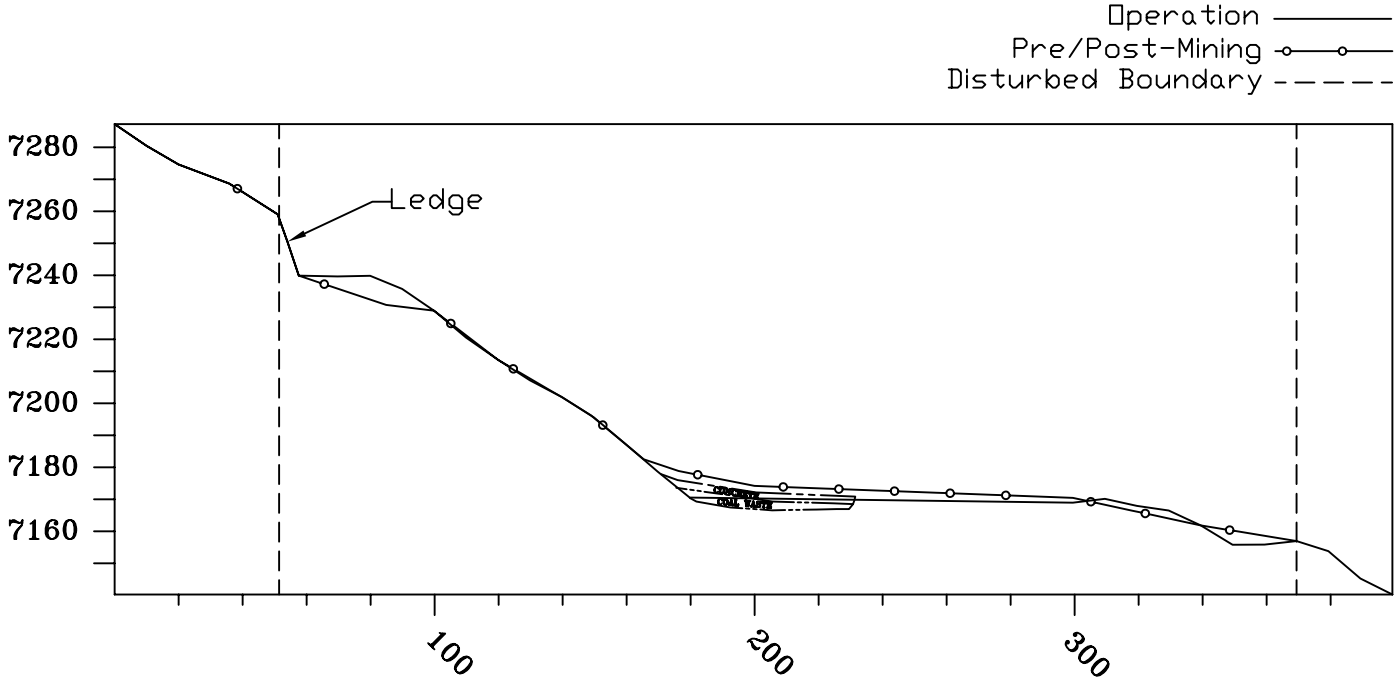
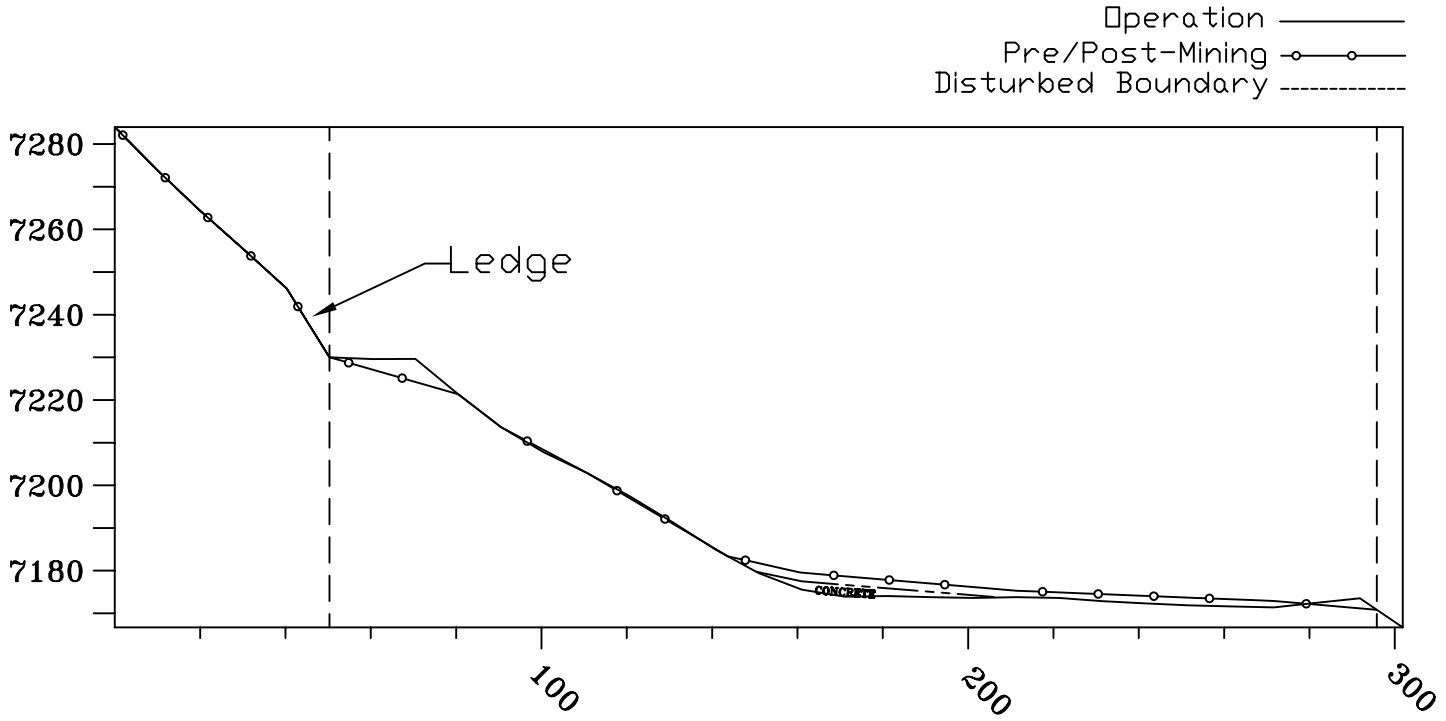
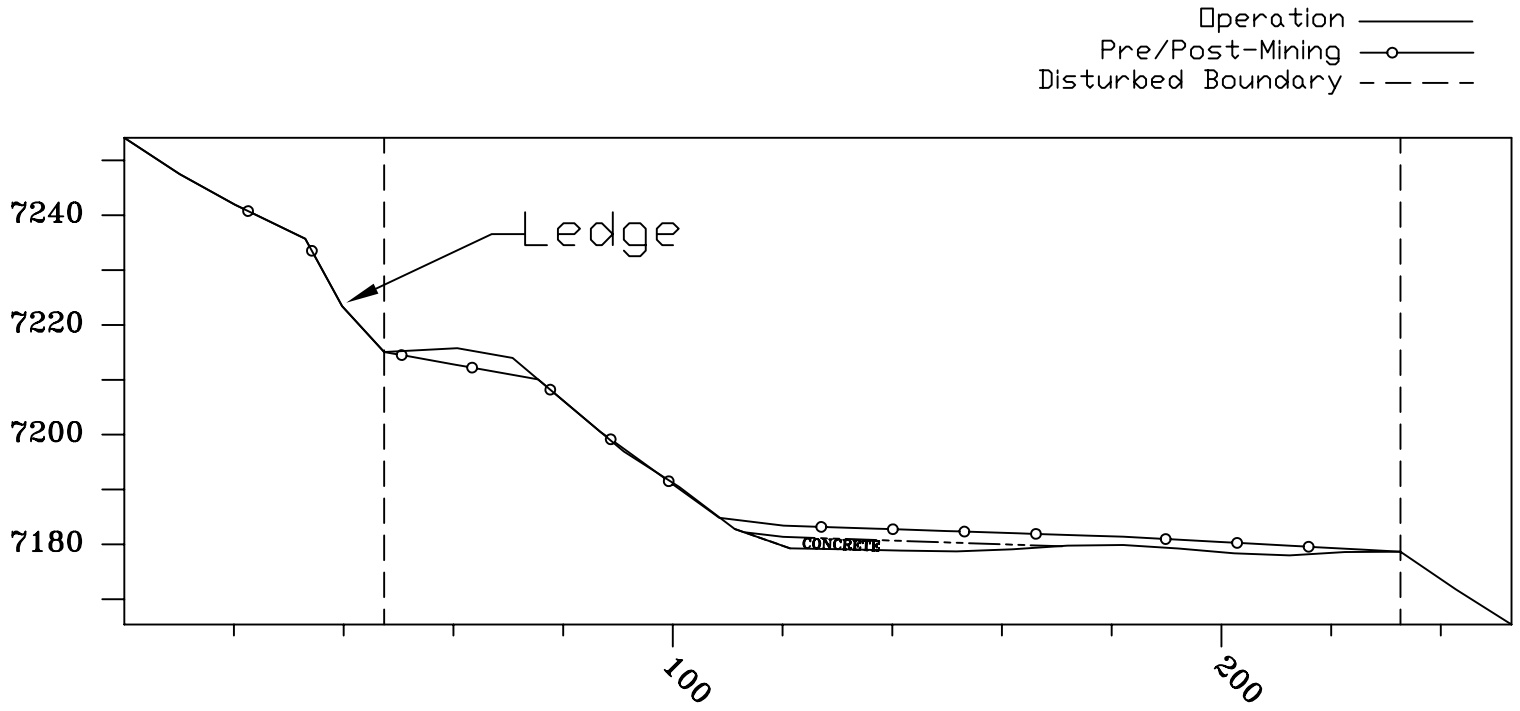


TS-5 Section 11+00



TS-5 Section 12+00



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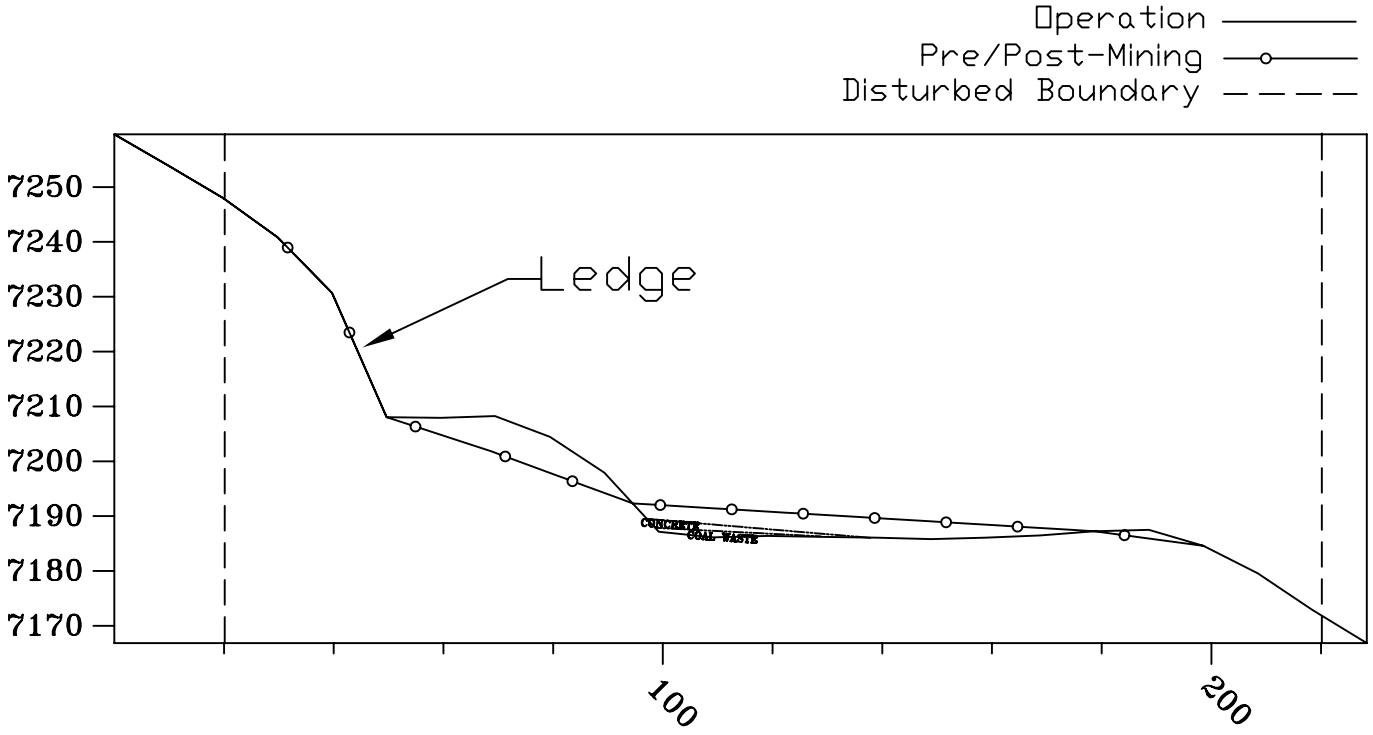


TS-6 Portal Access Road

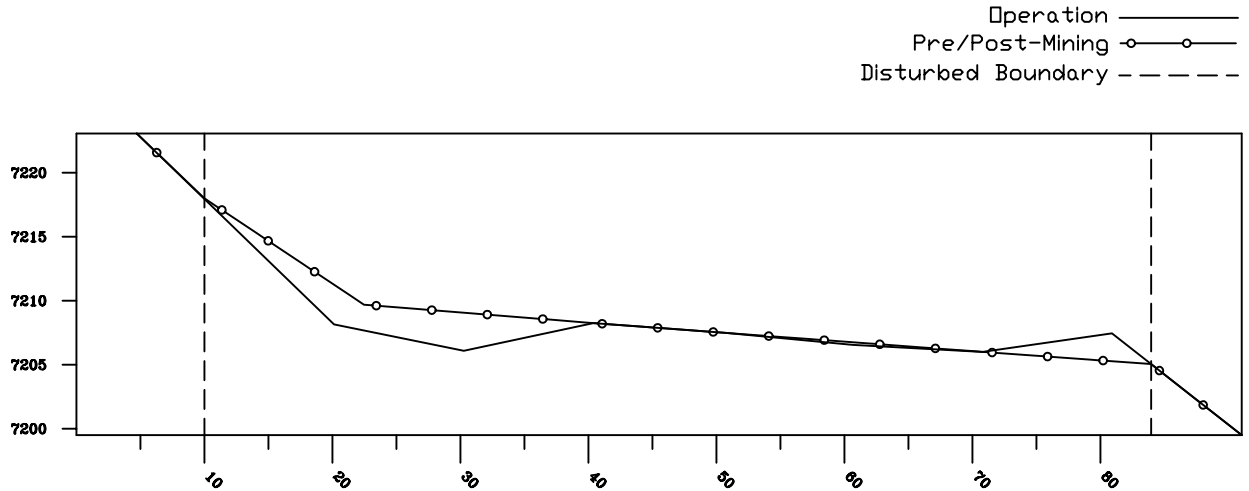
TS-6, which includes the Portal Access road, will be reclaimed as shown on the following cross-sections so that the contour matches those shown on plates 5-6C and 5-6D. Sections 11+00, 12+00, 13+00, 15+00, and 16+00 contain BTCA Area "G" which has already been reclaimed and currently supports vegetation. Sections 13+00 and 14+00 are located at the switch back. Both section 12+00 and 15+00 are south of section 13+00 but 15+00 is at a higher elevation. The reclaimed slope shown on 12+00 and 15+00 is the same one, and the reclaimed slope shown on 11+00 and 16+00 is also the same one.

2,553 cu. yd. of material will be generated in this Area for use in TS-7 and TS-8. A summary of the cut and fill values is shown in Table 5I-5.

Table 5I-5 – Area TS-6 Cut and Fill Summary

	Fill (-) Volumes (cu. yd.)	Cut (+) Volumes (cu. yd.)			
Section	**Total Fill Volume**	Substitute Topsoil	Other Soil	**Total Cut Volume**	**Volume Cumulative (cu. yd.)**
0+00	**207**	52	0	**52**	**-155**
1+00	**4**	76	0	**76**	**-83**
2+00	**0**	5	0	**5**	**-78**
3+00	**82**	82	0	**82**	**-78**
4+00	**0**	274	0	**274**	**196**
5+00	**74**	74	0	**74**	**196**
6+00	**30**	30	0	**30**	**196**
7+00	**141**	144	0	**144**	**199**
8+00	**130**	52	0	**52**	**121**
9+00	**111**	63	0	**63**	**73**
10+00	**51**	167	0	**167**	**189**
11+00	**107**	107	0	**107**	**189**
12+00	**111**	111	0	**111**	**189**
13+00	**504**	104	0	**104**	**-211**
14+00	**419**	1,096	0	**1,096**	**466**
15+00	**711**	0	0	**0**	**-245**
16+00	**163**	48	0	**48**	**-360**
17+00	**0**	193	0	**193**	**-167**
18+00	**78**	226	0	**226**	**-19**
19+00	**918**	148	0	**148**	**-789**
20+00	**0**	674	268	**942**	**153**
21+00	**0**	274	0	**274**	**427**
22+00	**218**	458	0	**458**	**667**
23+00	**218**	211	0	**211**	**660**
23+50	**41**	343	33	**376**	**995**
24+00	**1,089**	37	0	**37**	**-57**
25+00	**159**	96		**96**	**-120**
26+00	**7**	1,218	538	**1,756**	**1,629**
27+00	**0**	537	172	**709**	**2,338**
28+00	**0**	211	4	**215**	**2,553**
Totals	**5,573**	7,111	1,015	**8,126**	

TS-6 Section 0+00



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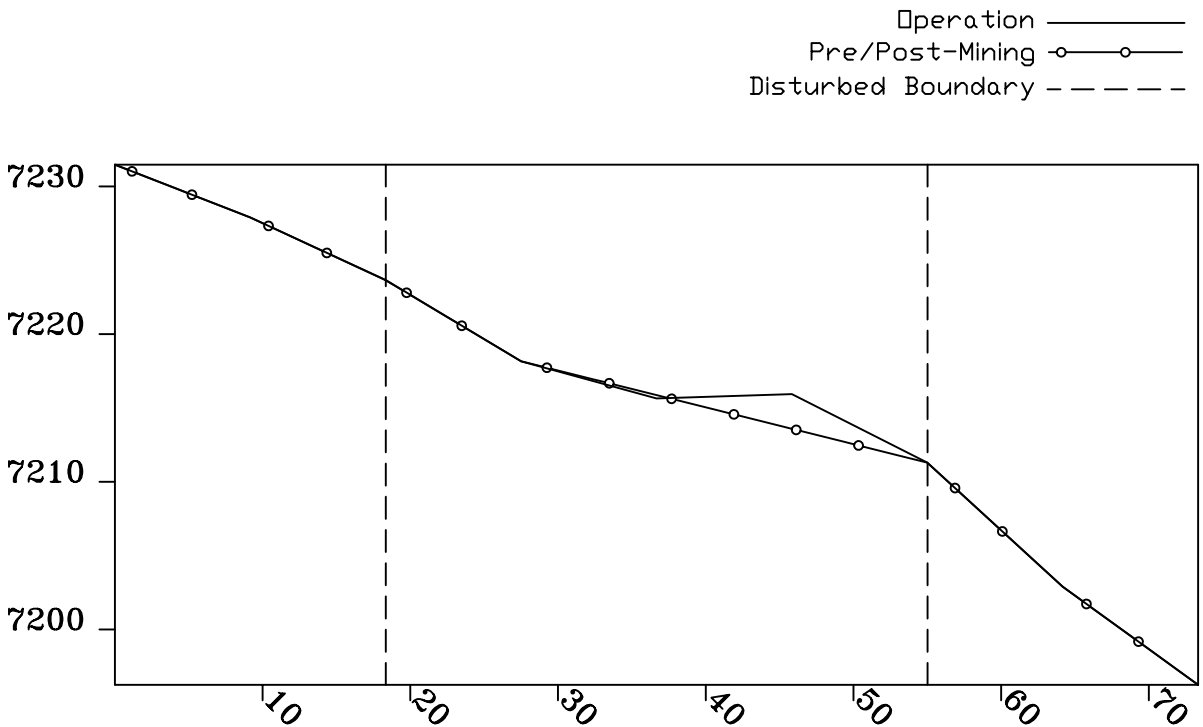

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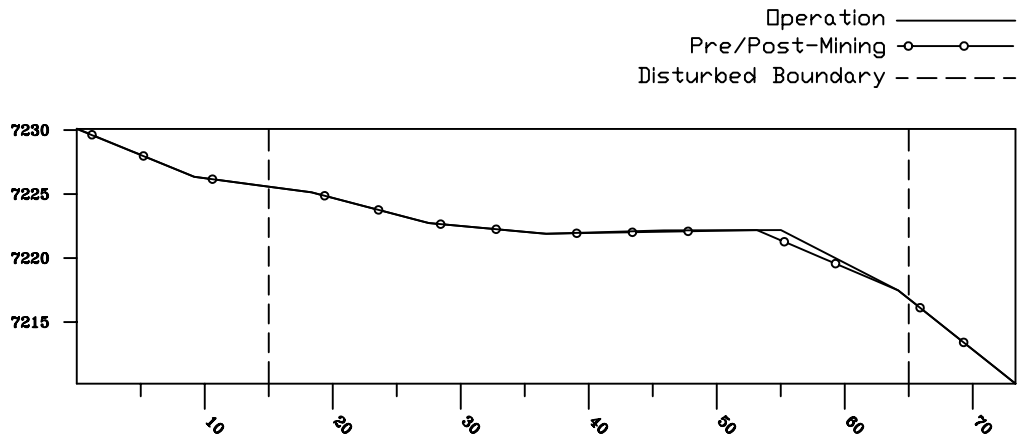

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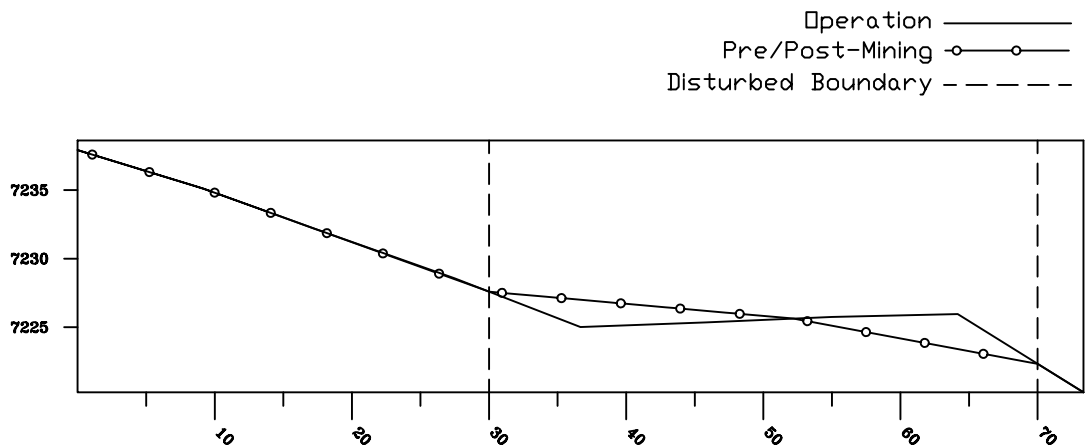

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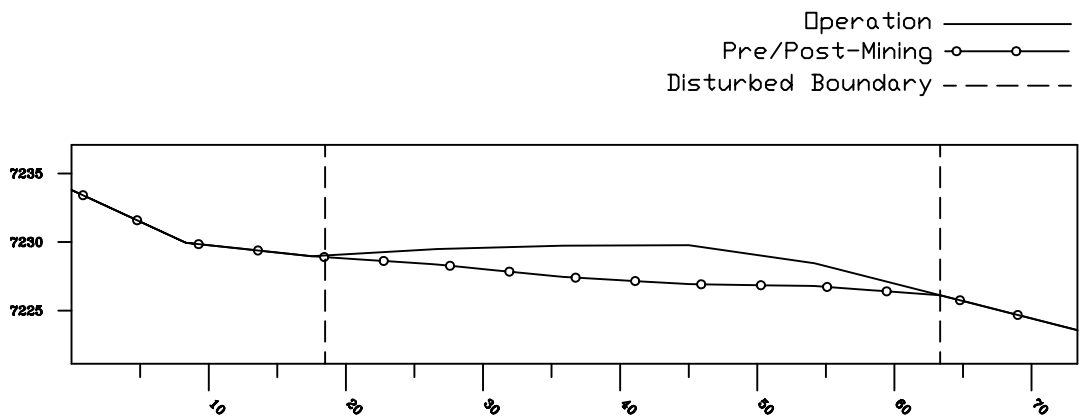

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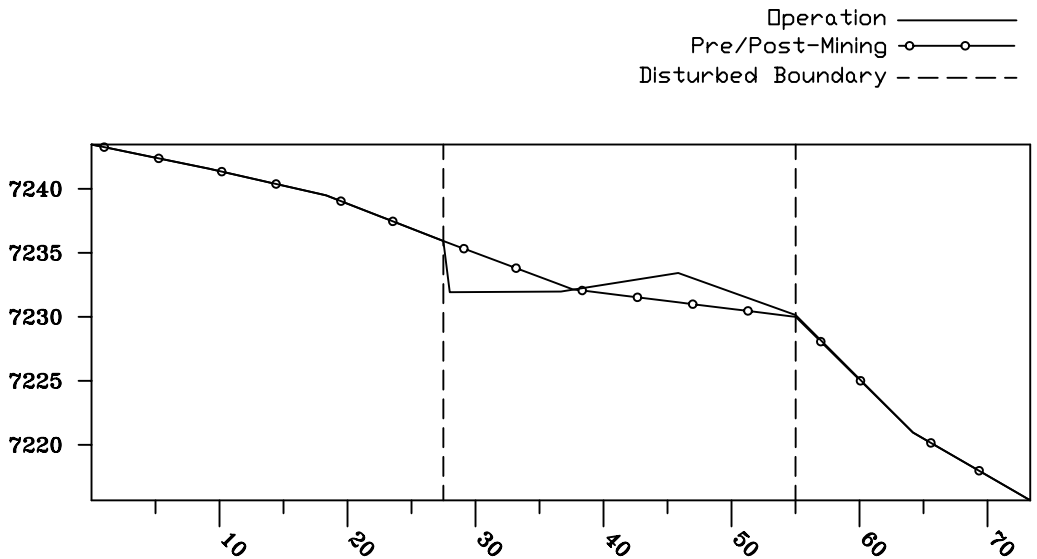

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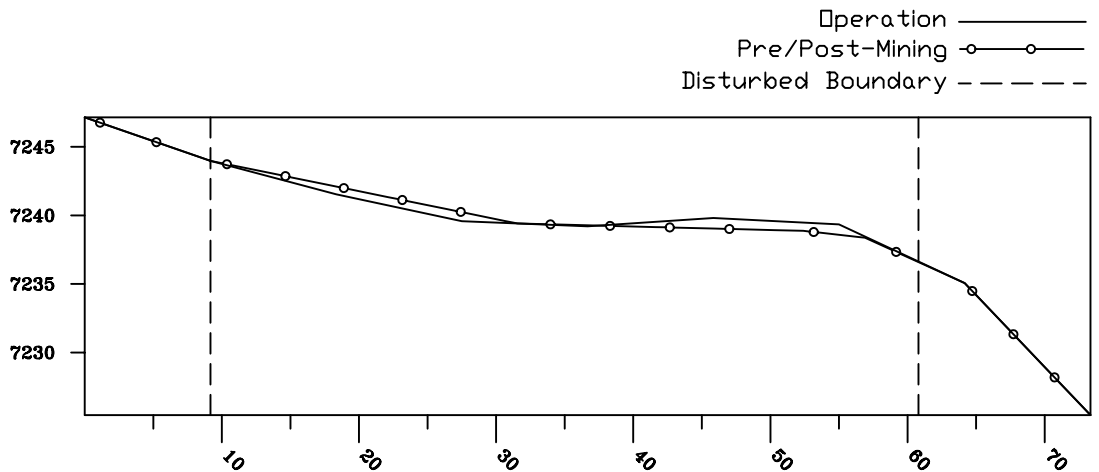
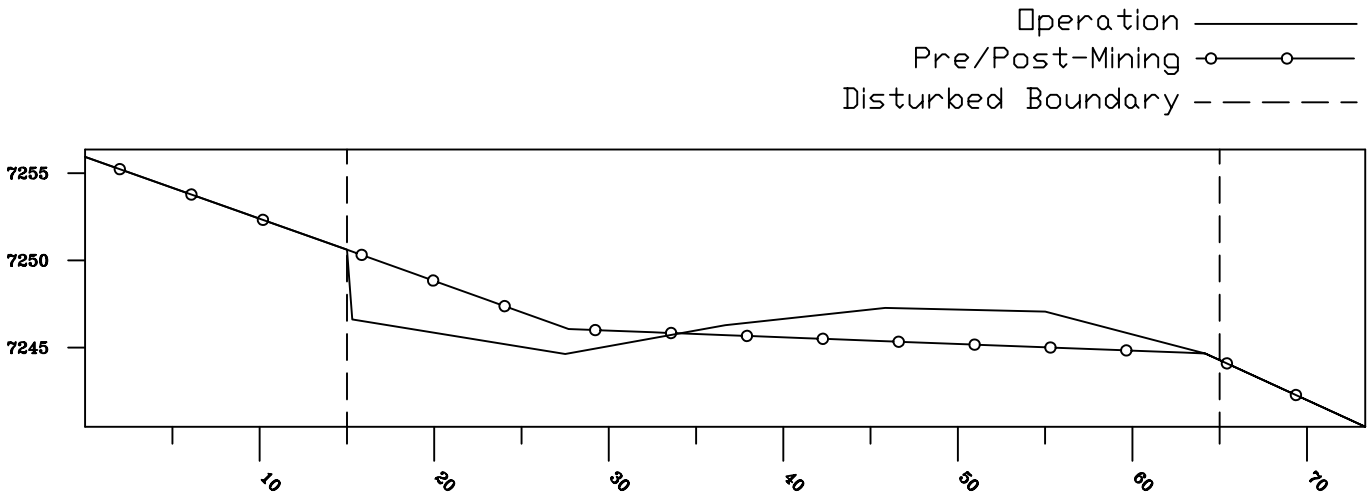
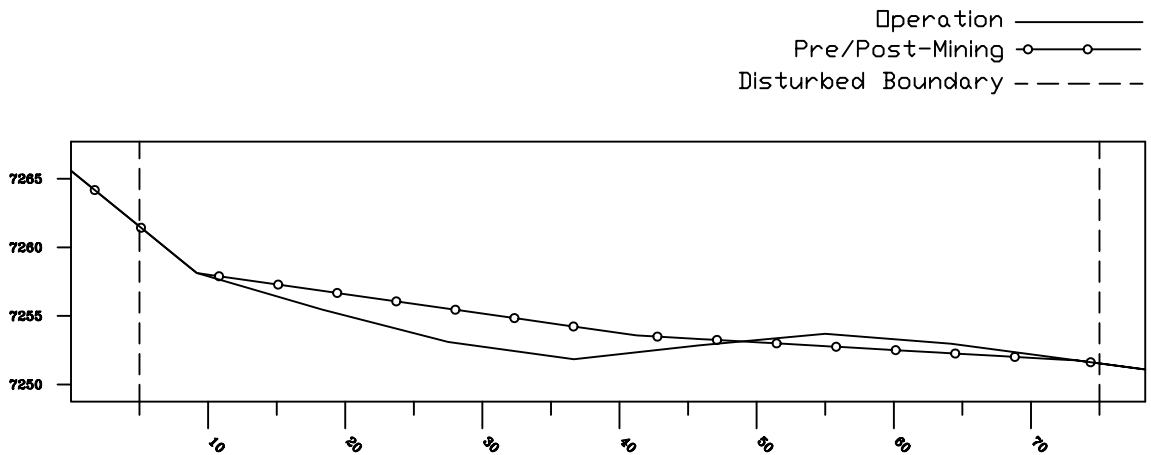


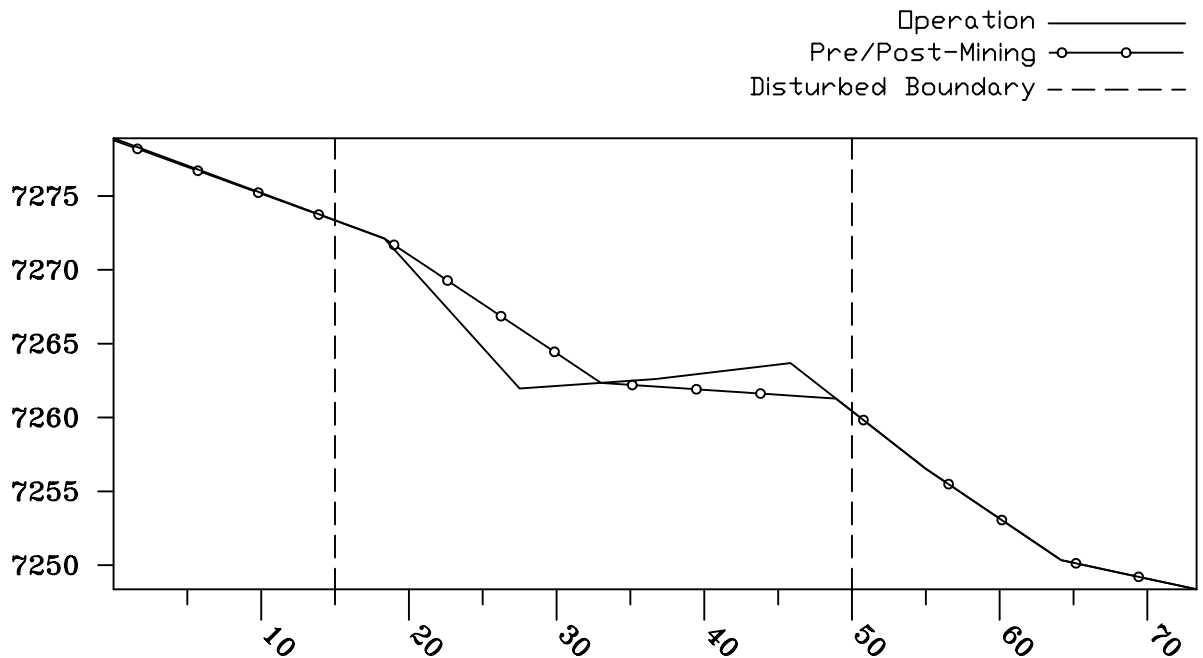
TS-6 Section 7+00



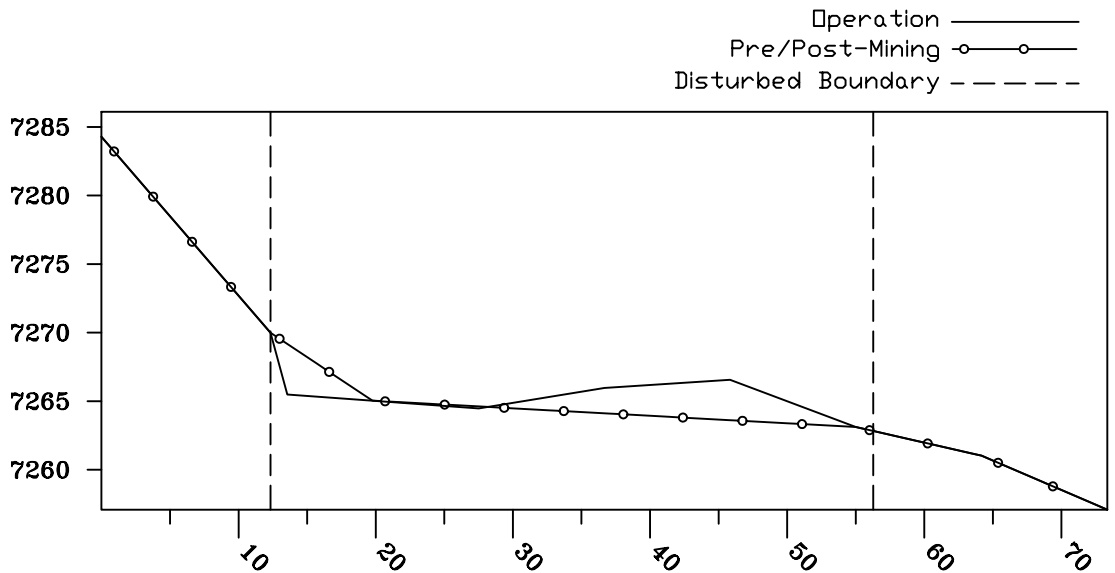
TS-6 Section 8+00



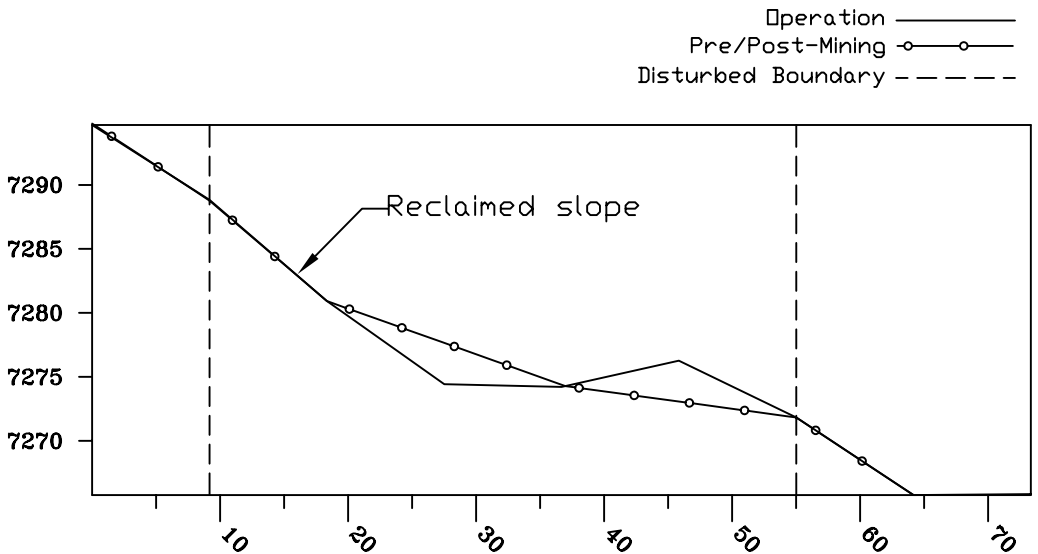
TS-6 Section 9+00



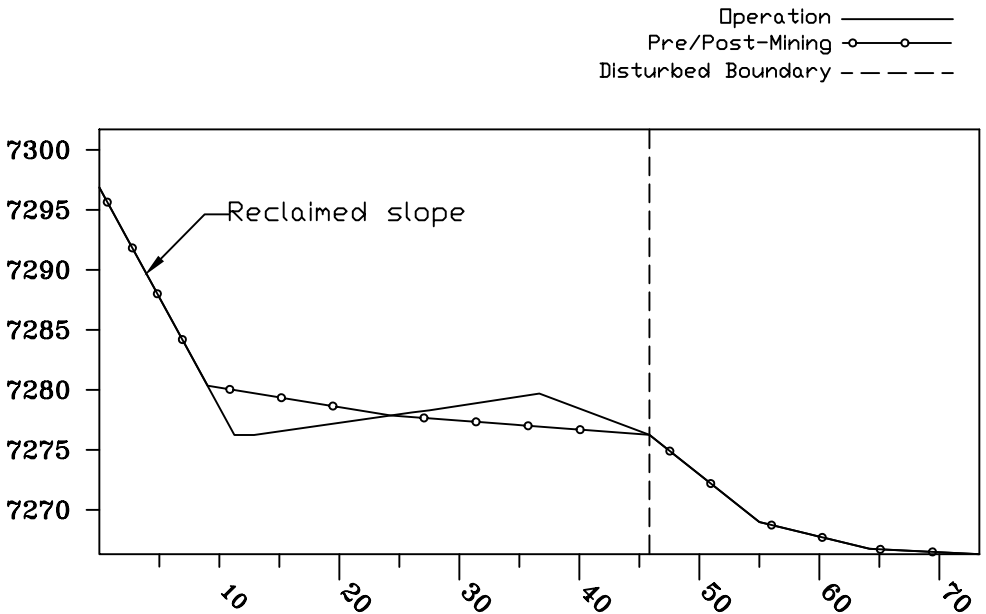
TS-6 Section 10+00



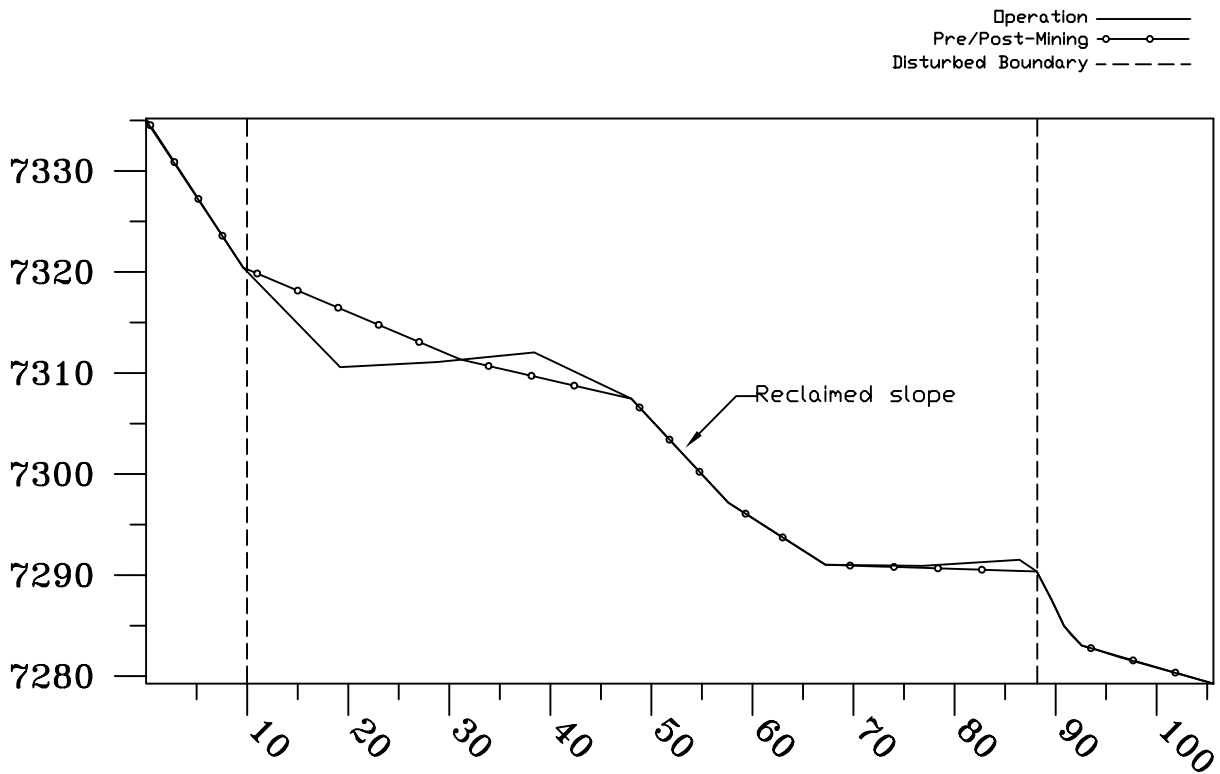
TS-6 Section 11+00



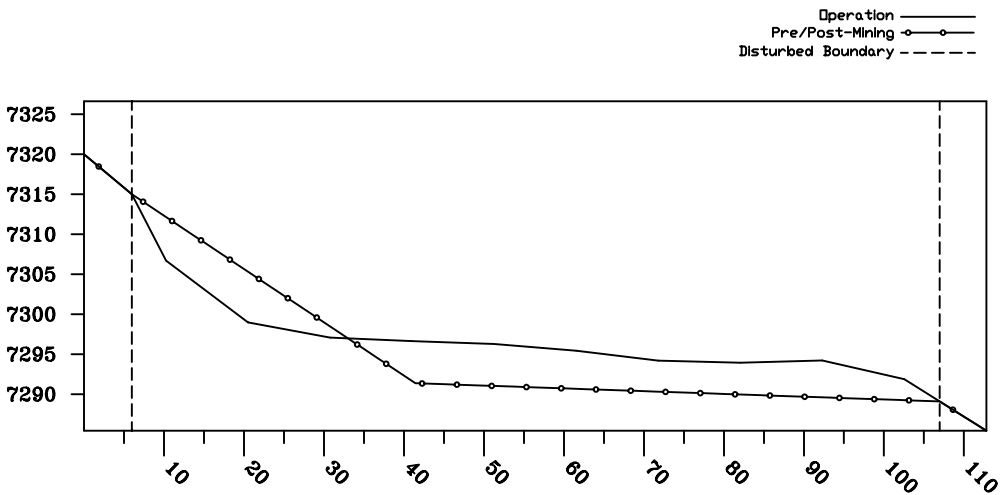
TS-6 Section 12+00

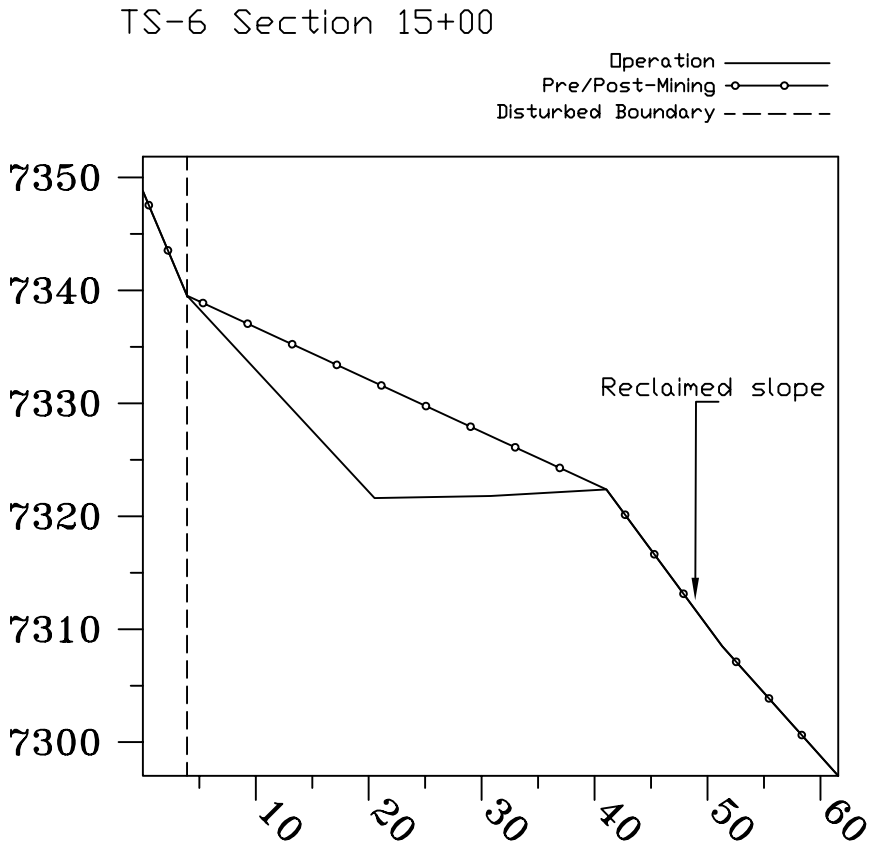


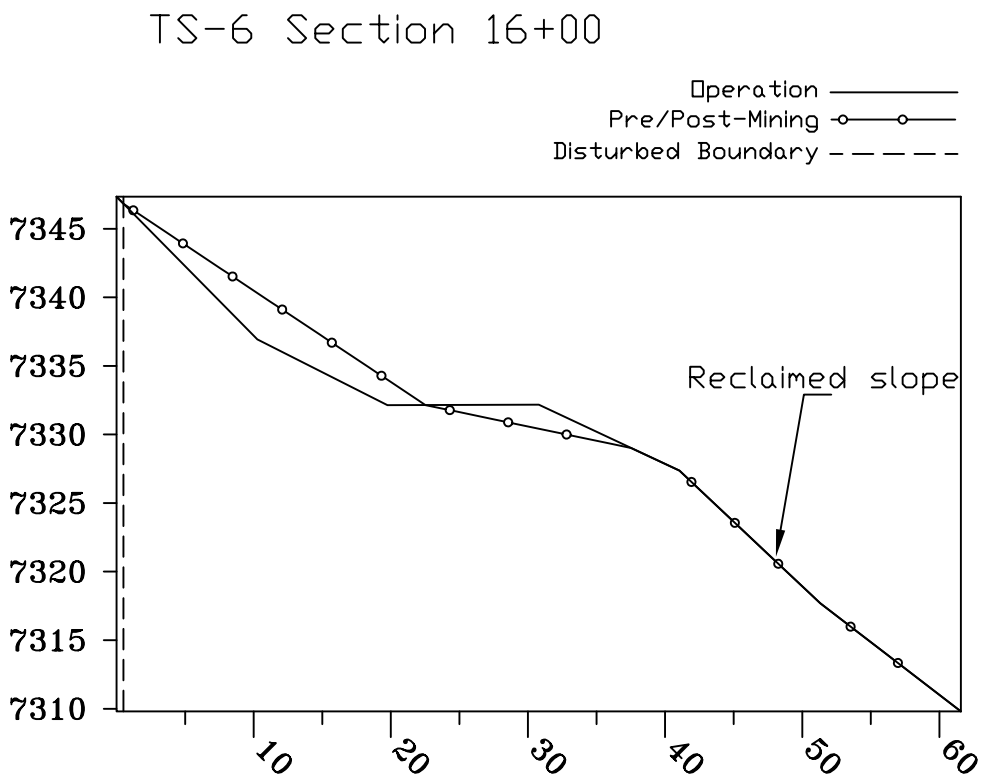
TS-6 Section 13+00

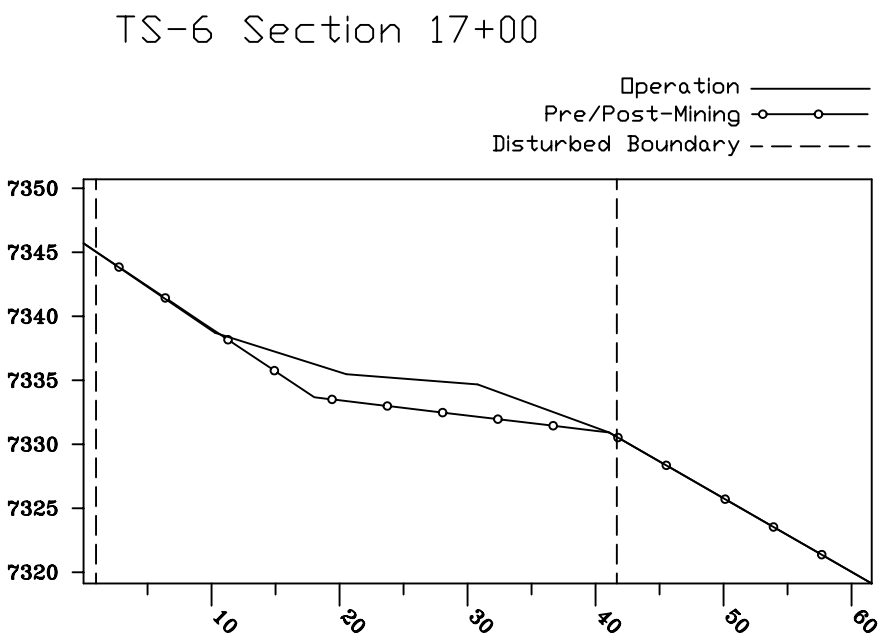


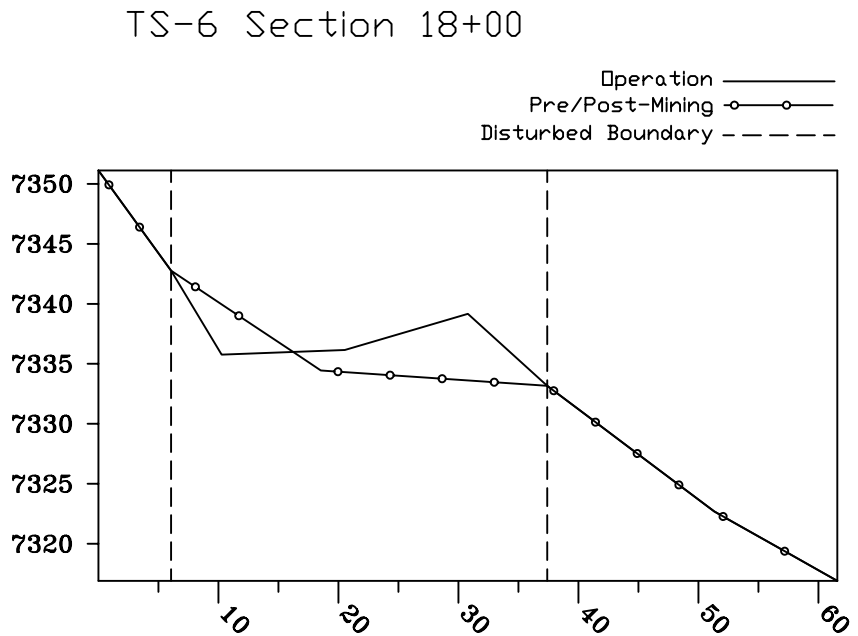
TS-6 Section 14+00

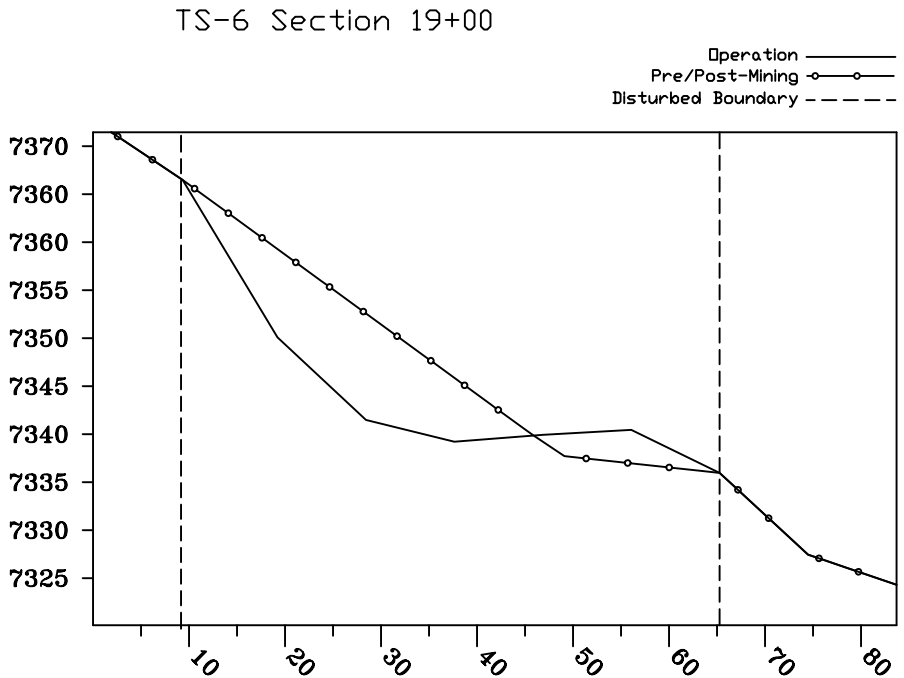


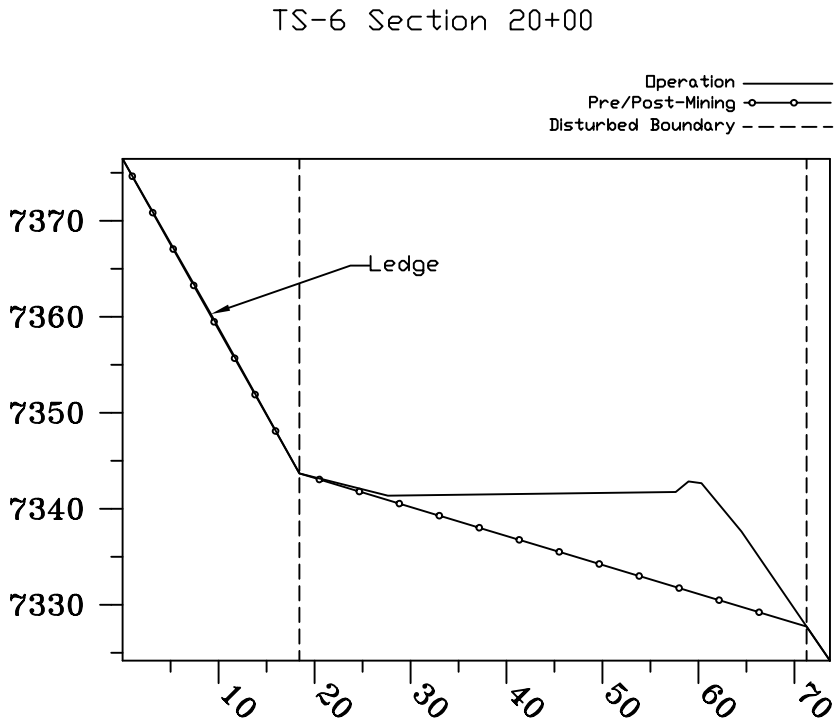

TS-6 Section 15+00
Operation
Pre/Post-Mining
Disturbed Boundary
7350
7340
7330
7320
7310
7300
Reclaimed slope
10
20
30
40
50
60

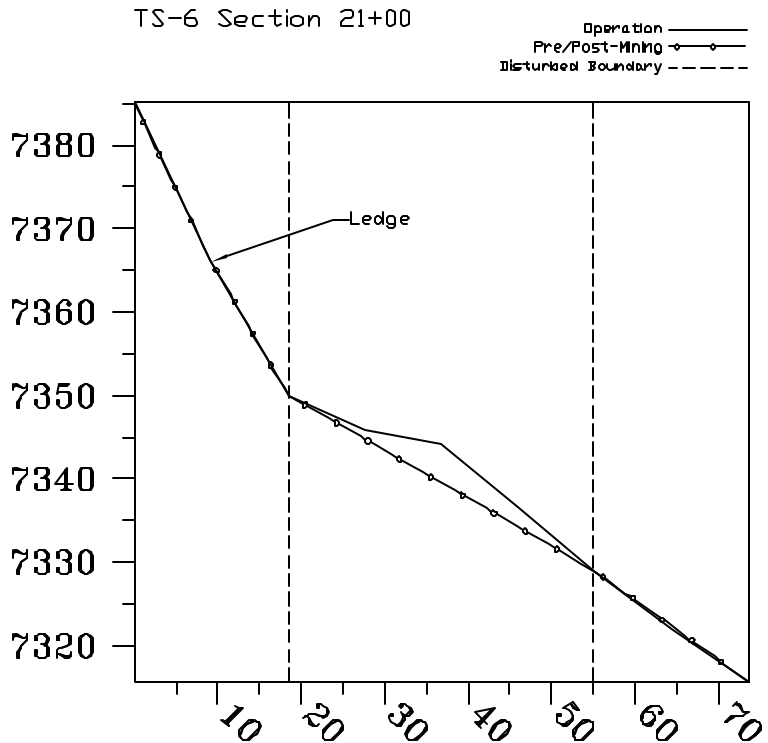

TS-6 Section 16+00
Operation
Pre/Post-Mining
Disturbed Boundary
7345
7340
7335
7330
7325
7320
7315
7310
Reclaimed slope
10
20
30
40
50
60

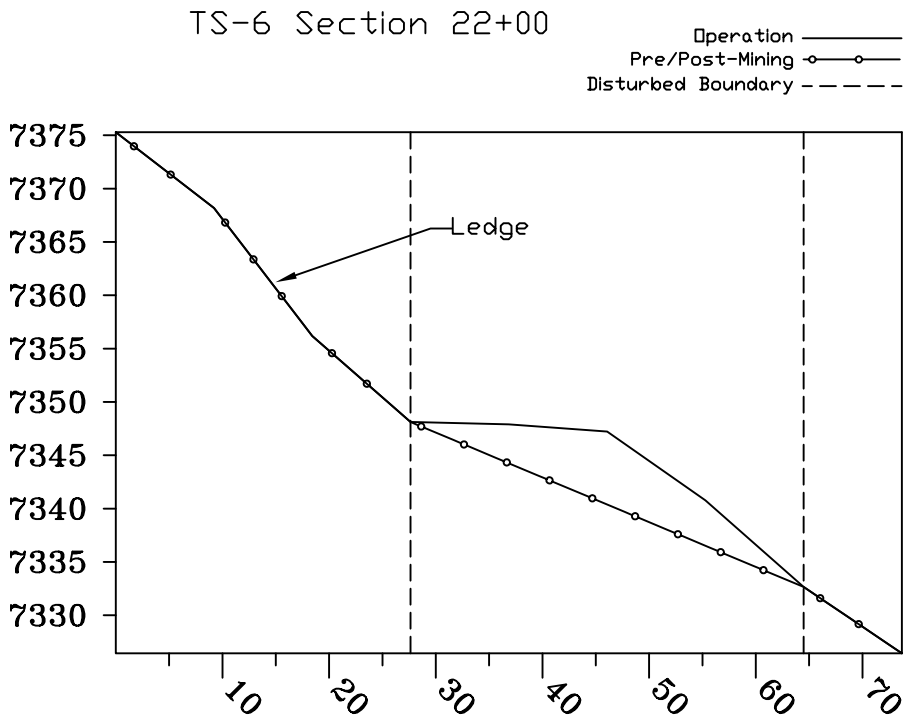

TS-6 Section 17+00
Operation
Pre/Post-Mining
Disturbed Boundary
7350
7345
7340
7335
7330
7325
7320
10
20
30
40
50
60

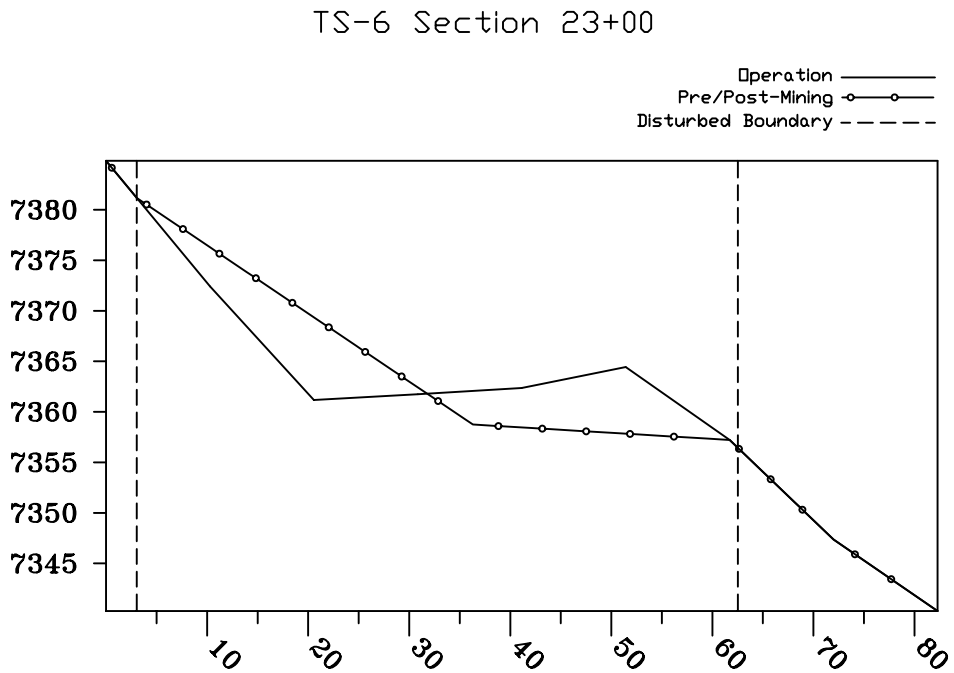

TS-6 Section 18+00
Operation
Pre/Post-Mining
Disturbed Boundary
7350
7345
7340
7335
7330
7325
7320
10
20
30
40
50
60

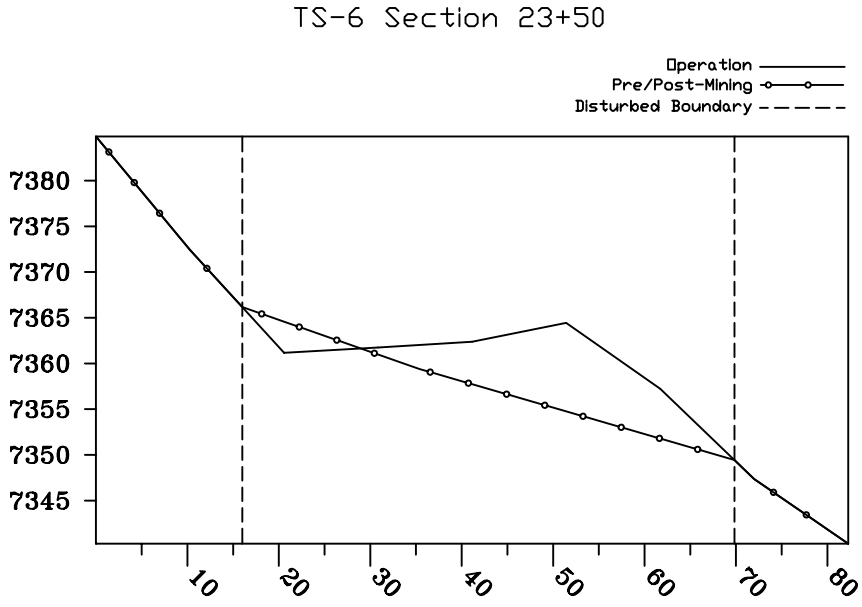

TS-6 Section 19+00
Operation
Pre/Post-Mining
Disturbed Boundary
7370
7360
7360
7355
7350
7345
7340
7335
7330
7325
10
20
30
40
50
60
70
80


TS-6 Section 20+00
Operation
Pre/Post-Mining
Disturbed Boundary
Ledge
7370
7360
7350
7340
7330
10
20
30
40
50
60
70

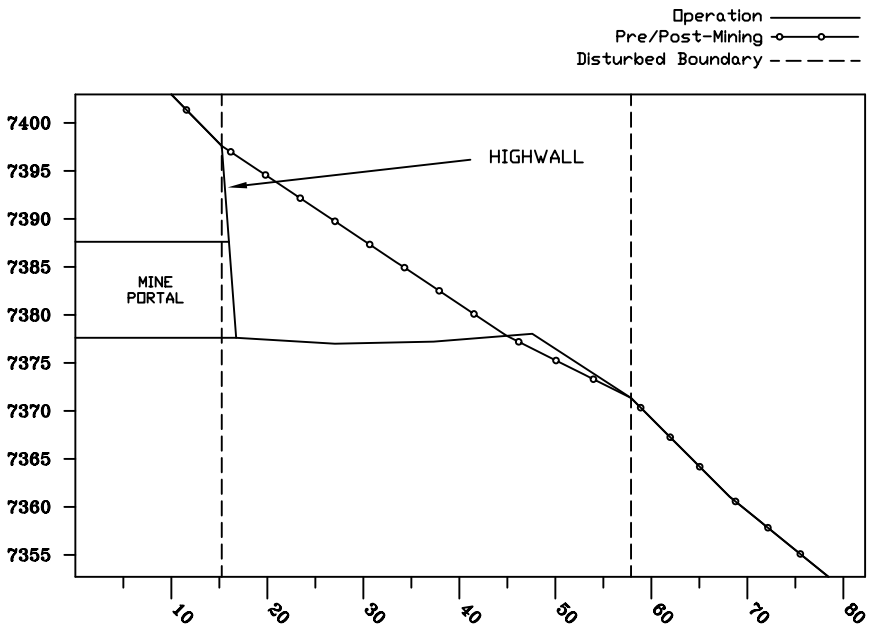

TS-6 Section 21+00
Operation
Pre/Post-Mining
Disturbed Boundary
Ledge
7380
7370
7360
7350
7340
7330
7320
10
20
30
40
50
60
70

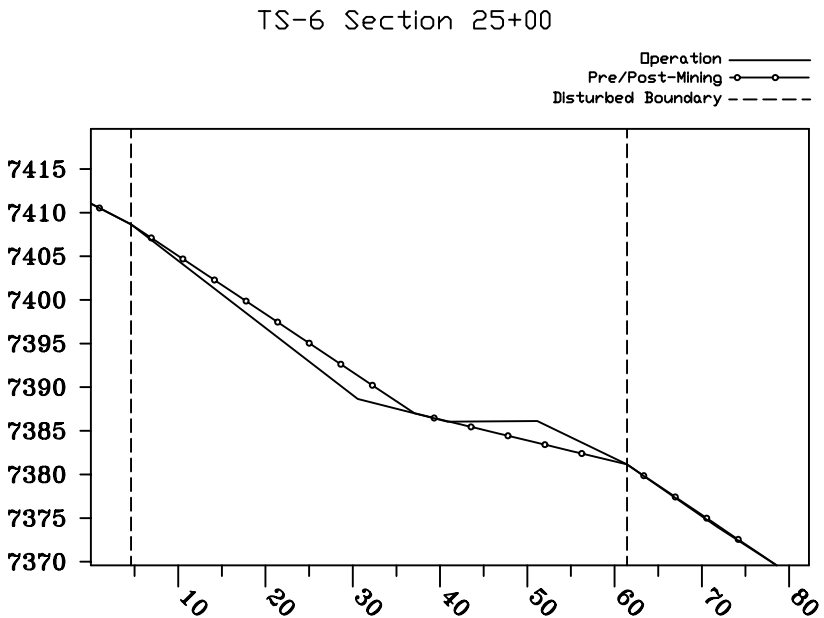

TS-6 Section 22+00
Operation
Pre/Post-Mining
Disturbed Boundary
7375
7370
7365
7360
7355
7350
7345
7340
7335
7330
Ledge
10
20
30
40
50
60
70

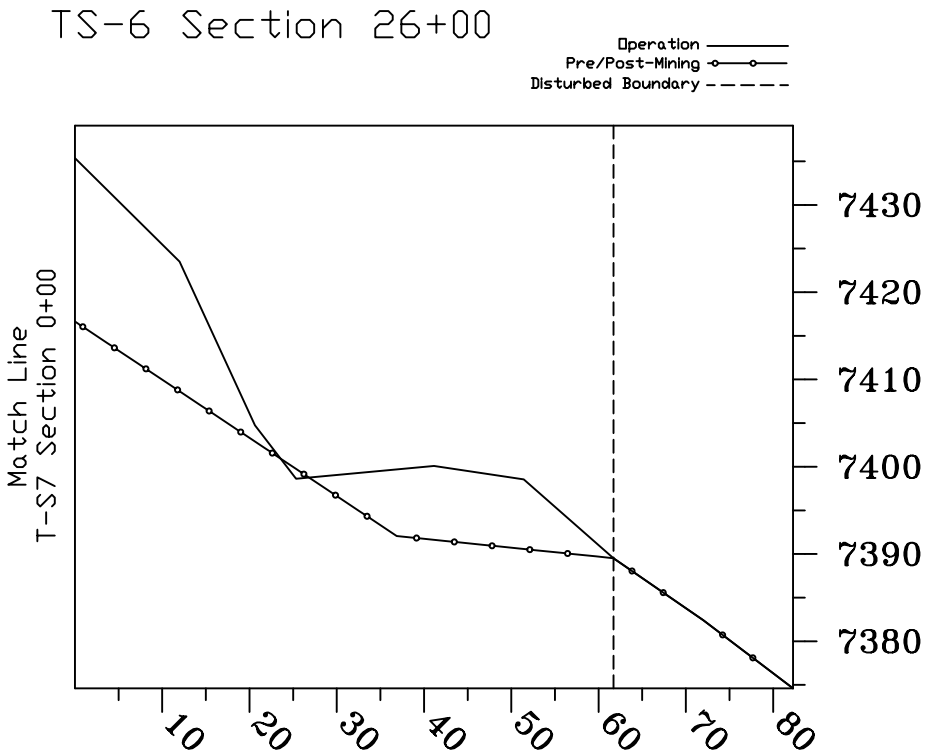

TS-6 Section 23+00
Operation
Pre/Post-Mining
Disturbed Boundary
7380
7375
7370
7365
7360
7355
7350
7345
10
20
30
40
50
60
70
80

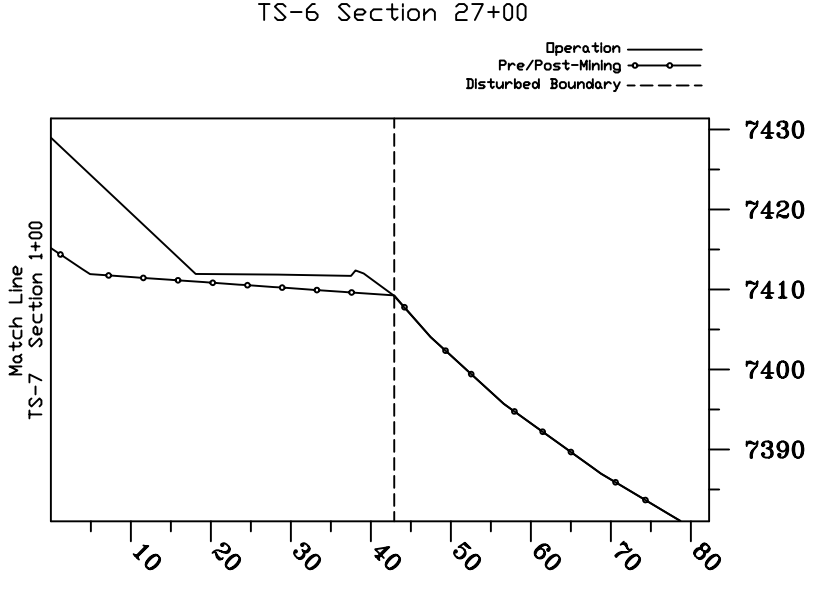

TS-6 Section 23+50
Operation
Pre/Post-Mining
Disturbed Boundary
7380
7375
7370
7365
7360
7355
7350
7345
10
20
30
40
50
60
70
80

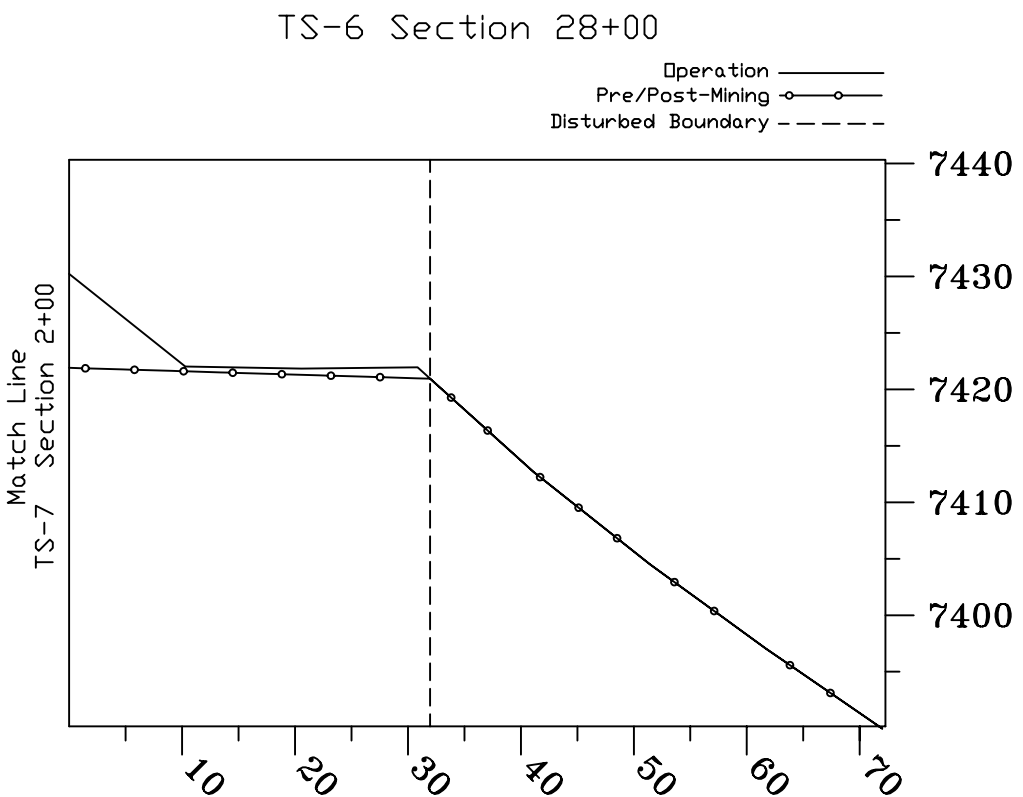
TS-6 Section 24+00




TS-6 Section 25+00
Operation
Pre/Post-Mining
Disturbed Boundary
7415
7410
7405
7400
7395
7390
7385
7380
7375
7370
10
20
30
40
50
60
70
80


TS-6 Section 26+00
Operation
Pre/Post-Mining
Disturbed Boundary
Match Line
T-S7 Section 0+00
7430
7420
7410
7400
7390
7380
10
20
30
40
50
60
70
80


TS-6 Section 27+00
Operation
Pre/Post-Mining
Disturbed Boundary
Match Line
TS-7 Section 1+00
7430
7420
7410
7400
7390
10
20
30
40
50
60
70
80


TS-6 Section 28+00
Operation
Pre/Post-Mining
Disturbed Boundary
Match Line
TS-7 Section 2+00
7440
7430
7420
7410
7400
10
20
30
40
50
60
70

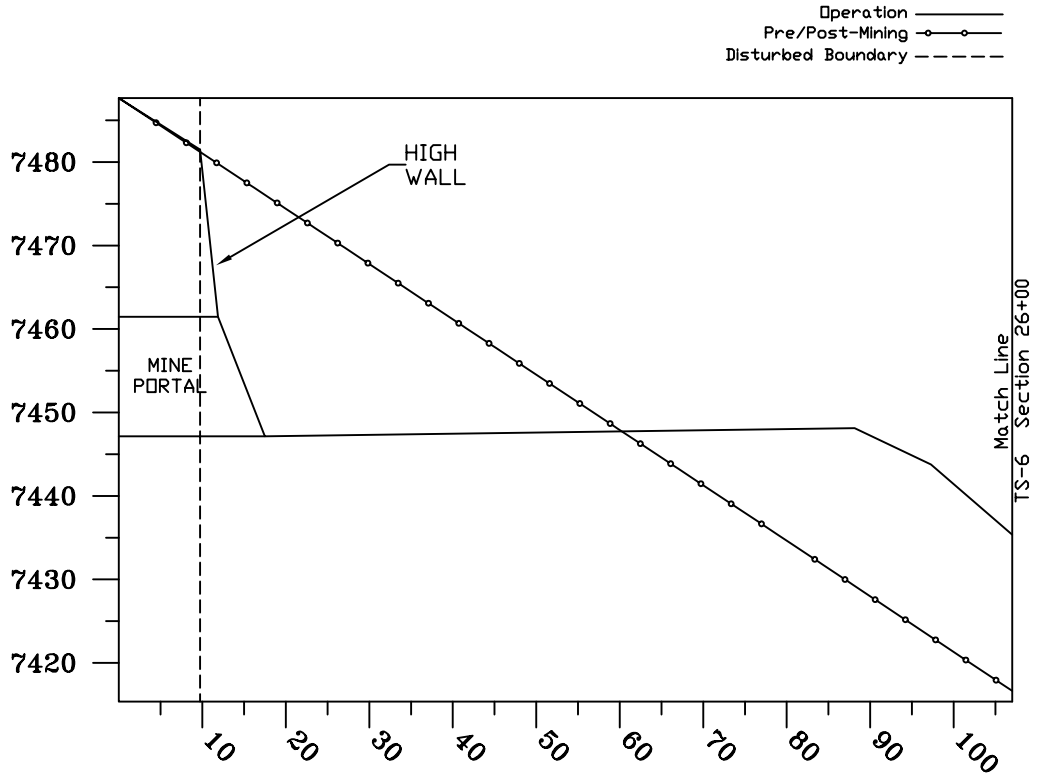
TS-7 Blind Seam Portal Pad

TS-7 will be reclaimed as shown on the following cross-sections in order to match the contours shown on plate 5-6C. 11,582 cu. yd. of material from either TS-5 or TS-6 will be used here for the reclamation. Three highwalls are located in this section and all of them will be completely covered with fill material. The highwall shown on section 3+00 is the belt entry and passes under the road before it enters the coal seam. Table 5I-6 show a summary of the cut and fill volumes.

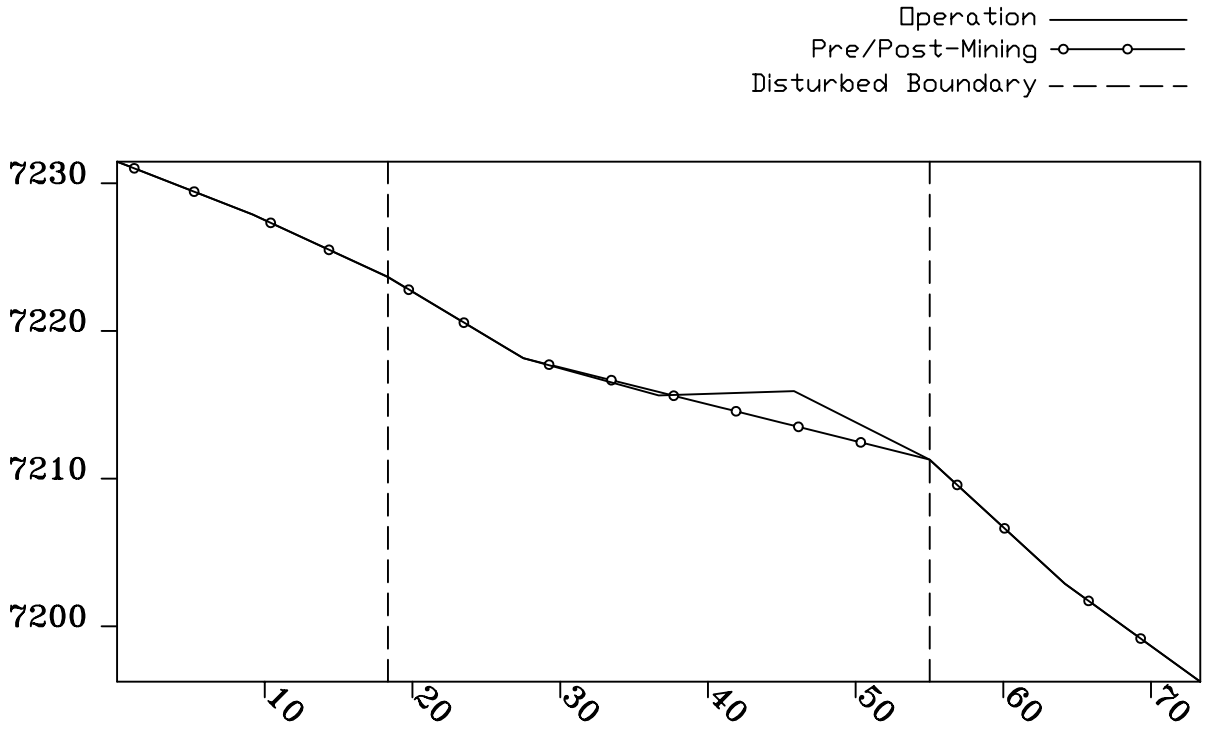
Table 5I-6 - Area TS-7 Cut & Fill Summary

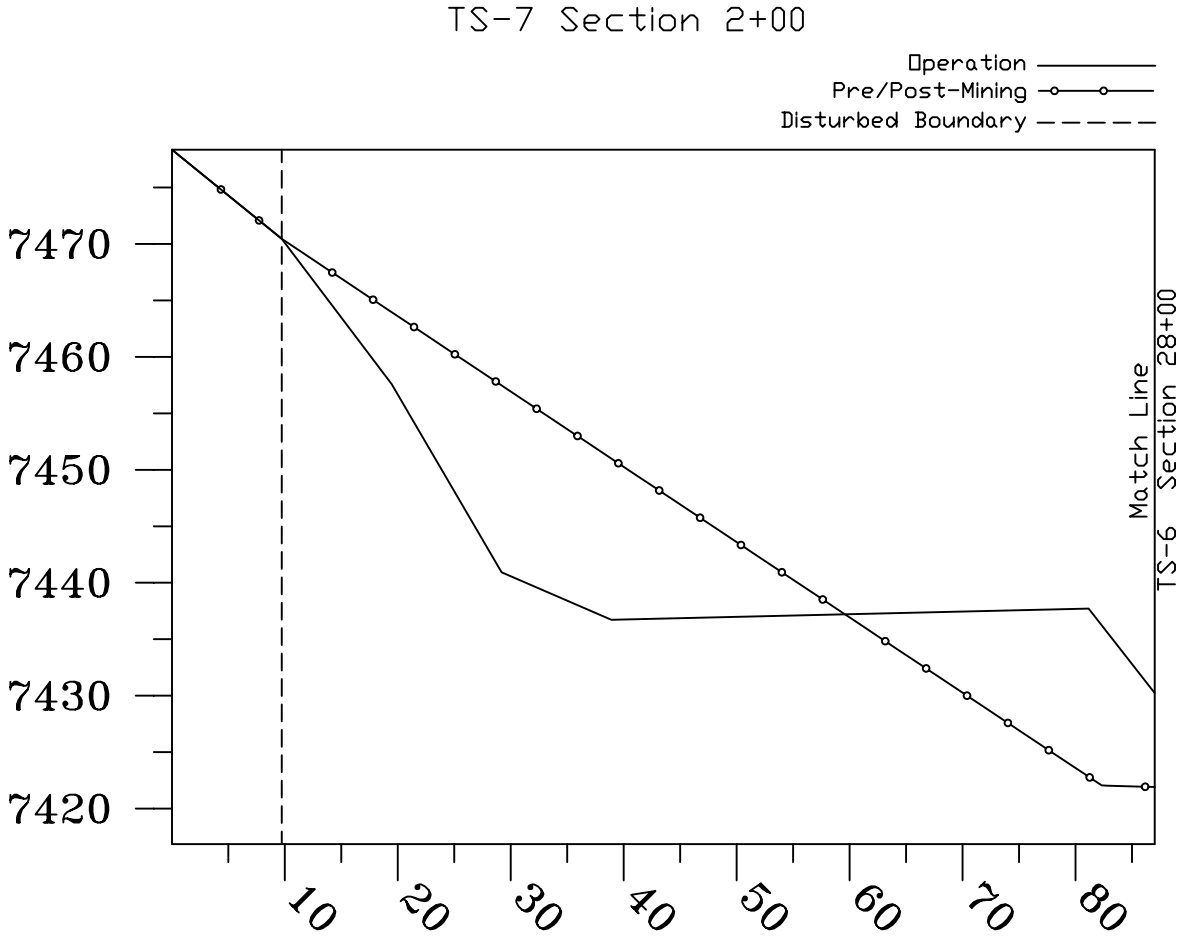
	Fill (-) Volumes (cu. yd.)	Cut (+) Volumes (cu. yd.)			**Volume Cumulative (cu. yd.)**
Section	**Total Fill Volume**	Substitute Topsoil	Regular Soil	**Total Cut Volume**	
0+00	**2,881**	1,078	1,274	**2,352**	**-529**
1+00	**2,633**	867	718	**1,585**	**-1,577**
2+00	**1,630**	578	274	**852**	**-2,355**
3+00	**1,356**	248		**248**	**-3,463**
3+50	**1,355**	137		**137**	**-4,681**
4+00	**1,996**	45		**45**	**-6,632**
5+00	**1,703**	685		**685**	**-7,650**
6+00	**696**	67		**67**	**-8,279**
7+00	**989**	420		**420**	**-8,848**
7+50	**443**	0		**0**	**-9,291**
8+00	**2,355**	45	19	**64**	**-11,582**
Totals	**18,037**	4,170	22,207	**6,455**	

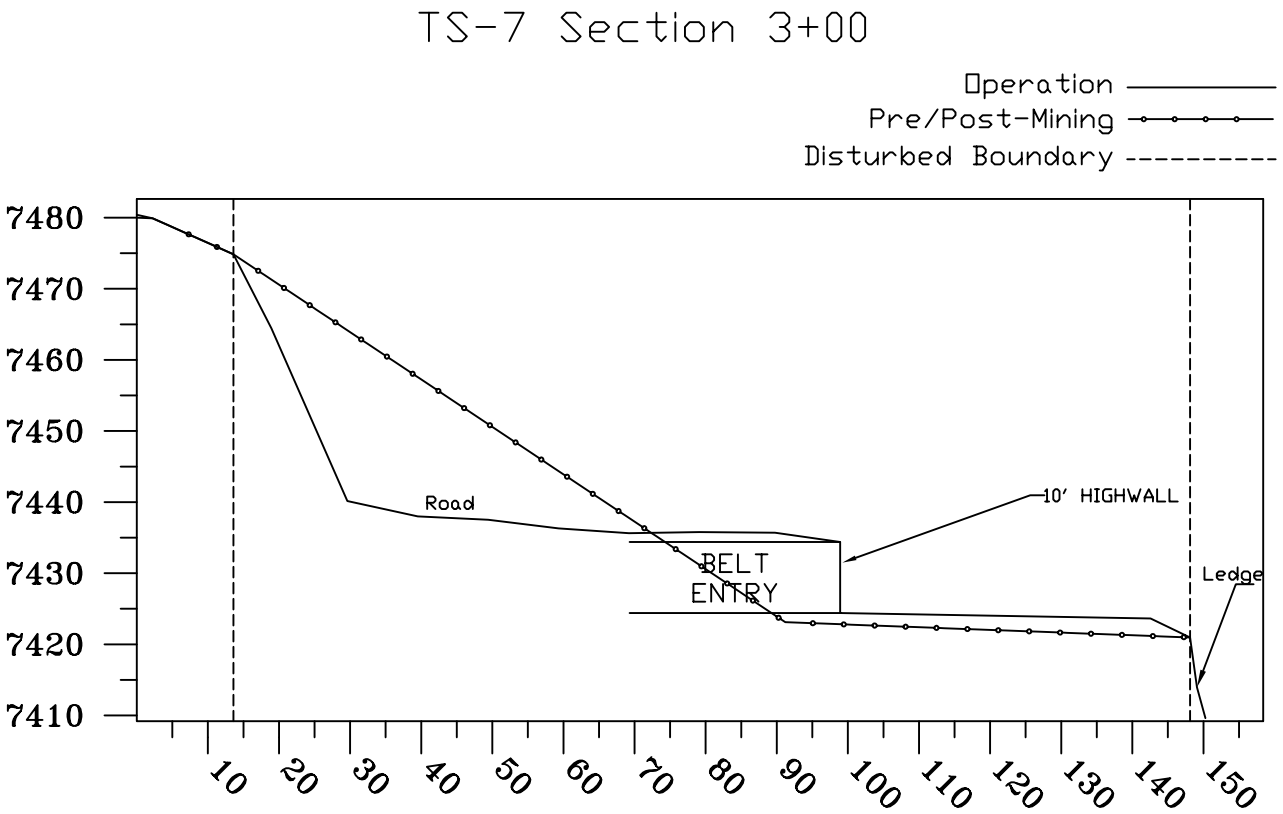
TS-7 Section 0+00



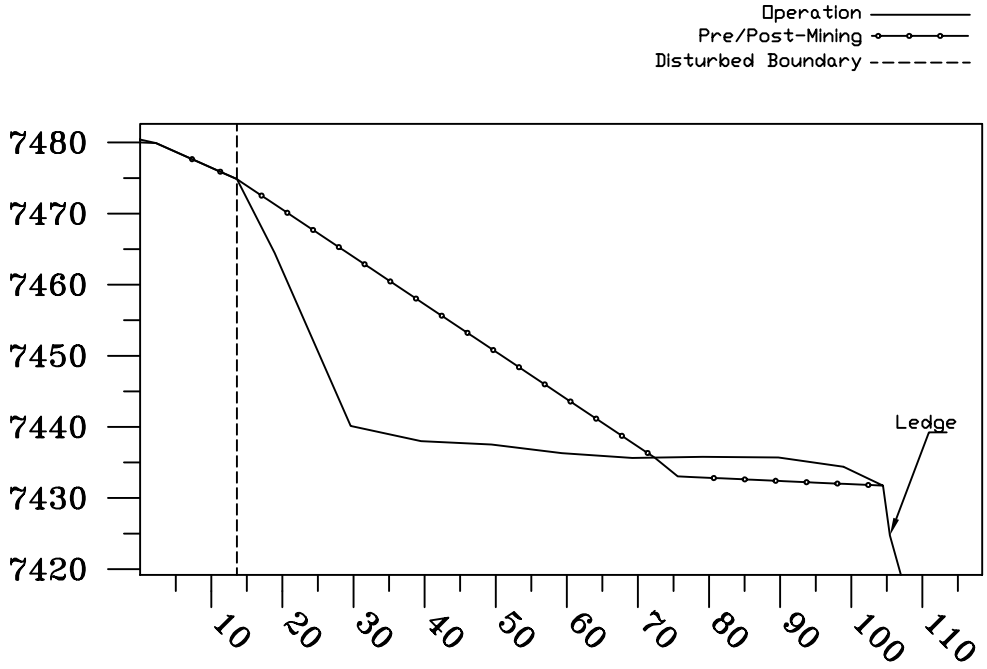
TS-6 Section 1+00

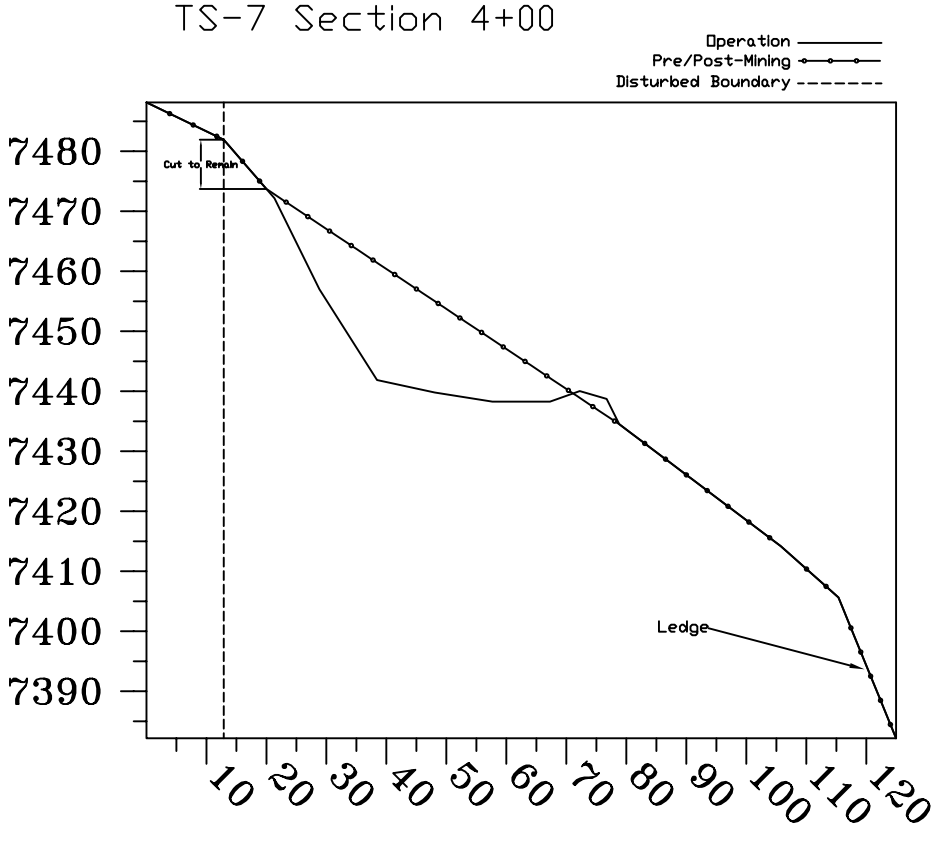


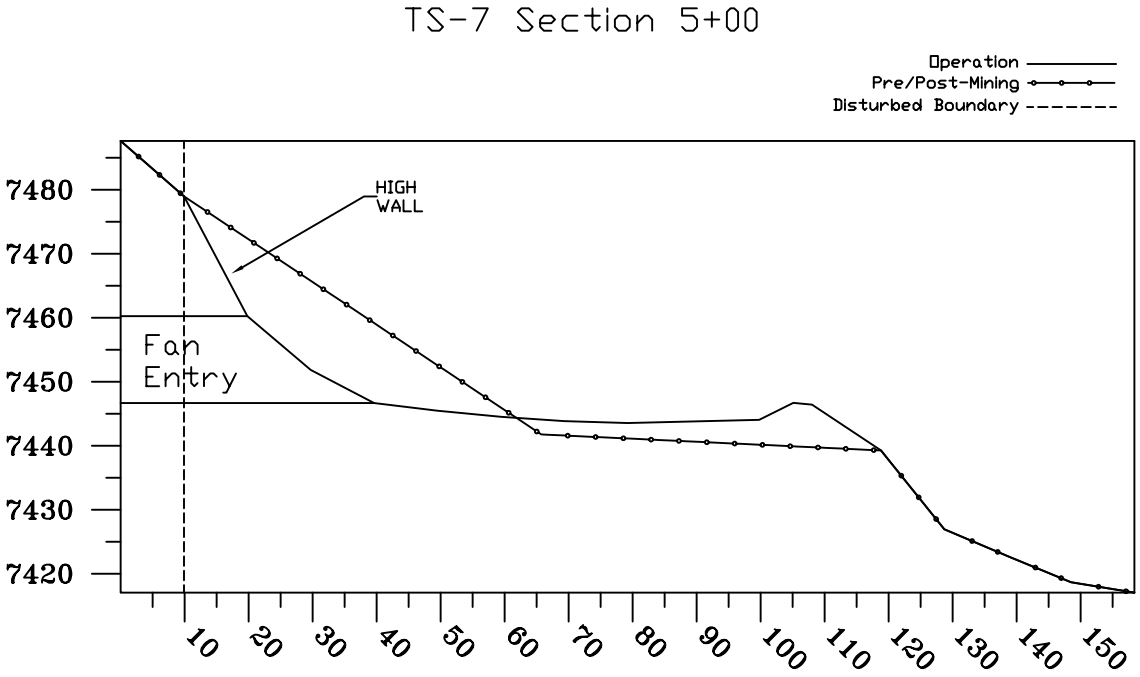

TS-7 Section 2+00
Operation
Pre/Post-Mining
Disturbed Boundary
7470
7460
7450
7440
7430
7420
10
20
30
40
50
60
70
80
Match Line
TS-6 Section 28+00

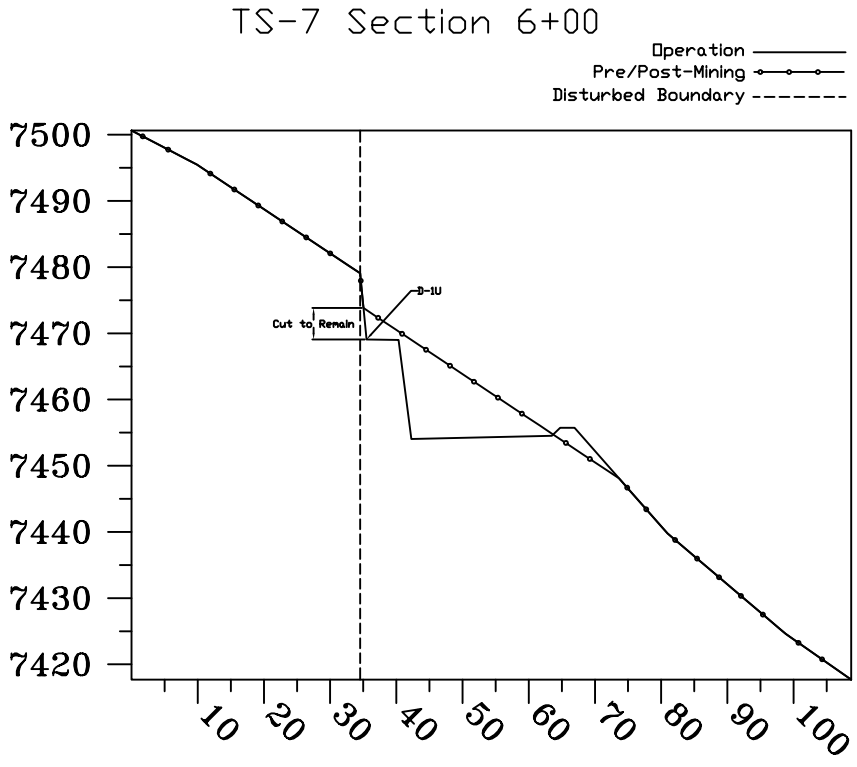

TS-7 Section 3+00
Operation
Pre/Post-Mining
Disturbed Boundary
7480
7470
7460
7450
7440
7430
7420
7410
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
Road
BELT
ENTRY
10' HIGHWALL
Ledge

TS-7 Section 3+50

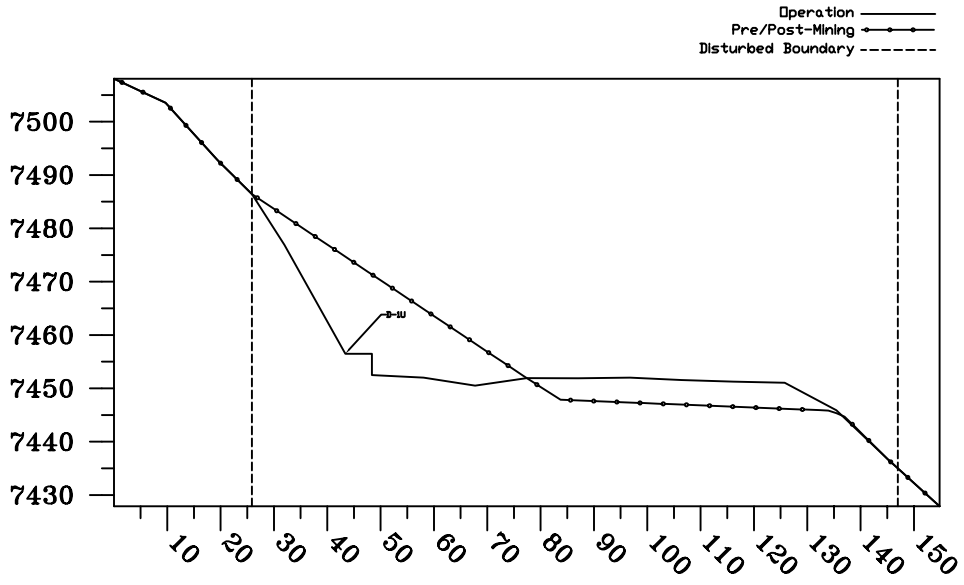


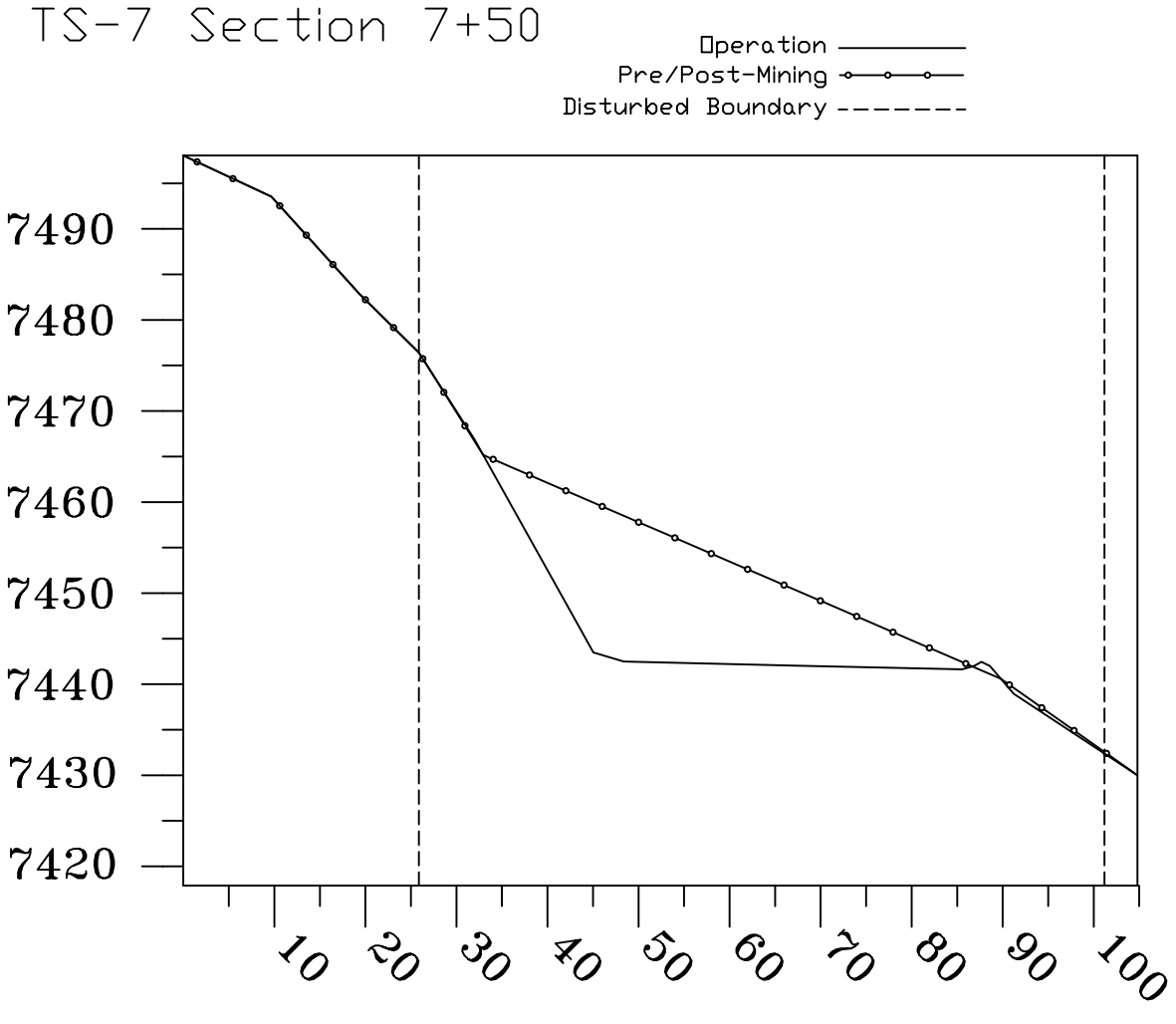

TS-7 Section 4+00
Operation
Pre/Post-Mining
Disturbed Boundary
Cut to Remain
Ledge
7480
7470
7460
7450
7440
7430
7420
7410
7400
7390
10
20
30
40
50
60
70
80
90
100
110
120

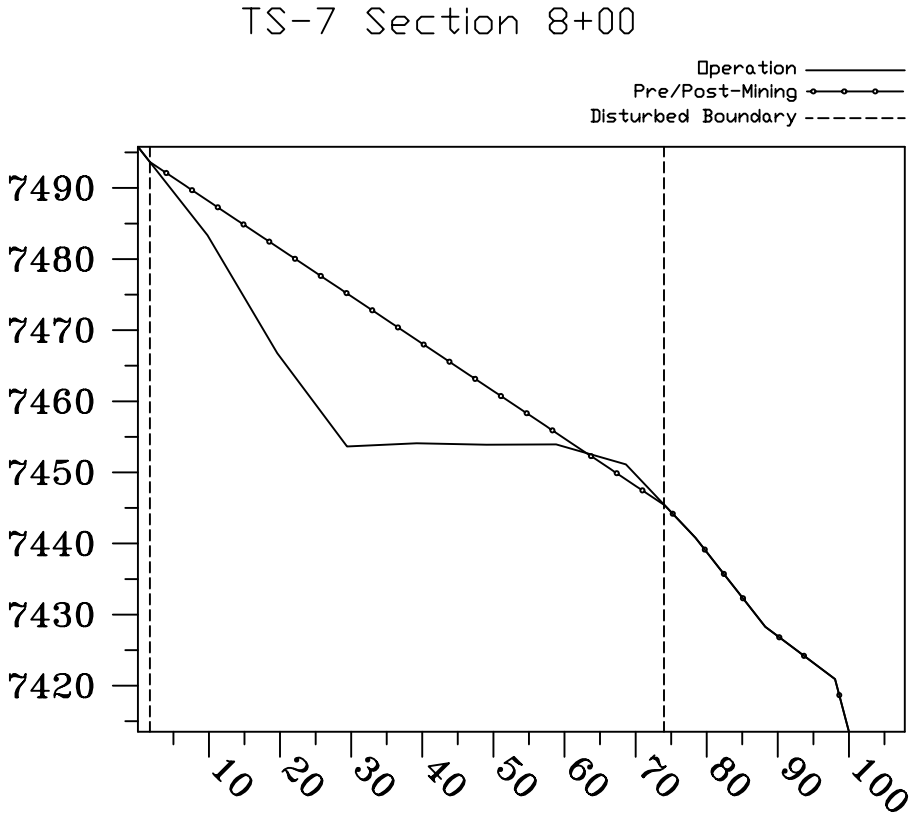

TS-7 Section 5+00
Operation
Pre/Post-Mining
Disturbed Boundary
HIGH
WALL
Fan
Entry
7480
7470
7460
7450
7440
7430
7420
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150


TS-7 Section 6+00
Operation
Pre/Post-Mining
Disturbed Boundary
7500
7490
7480
7470
7460
7450
7440
7430
7420
10
20
30
40
50
60
70
80
90
100
B-1U
Cut to Remain

TS-7 Section 7+00




TS-7 Section 7+50
Operation
Pre/Post-Mining
Disturbed Boundary
7490
7480
7470
7460
7450
7440
7430
7420
10
20
30
40
50
60
70
80
90
100

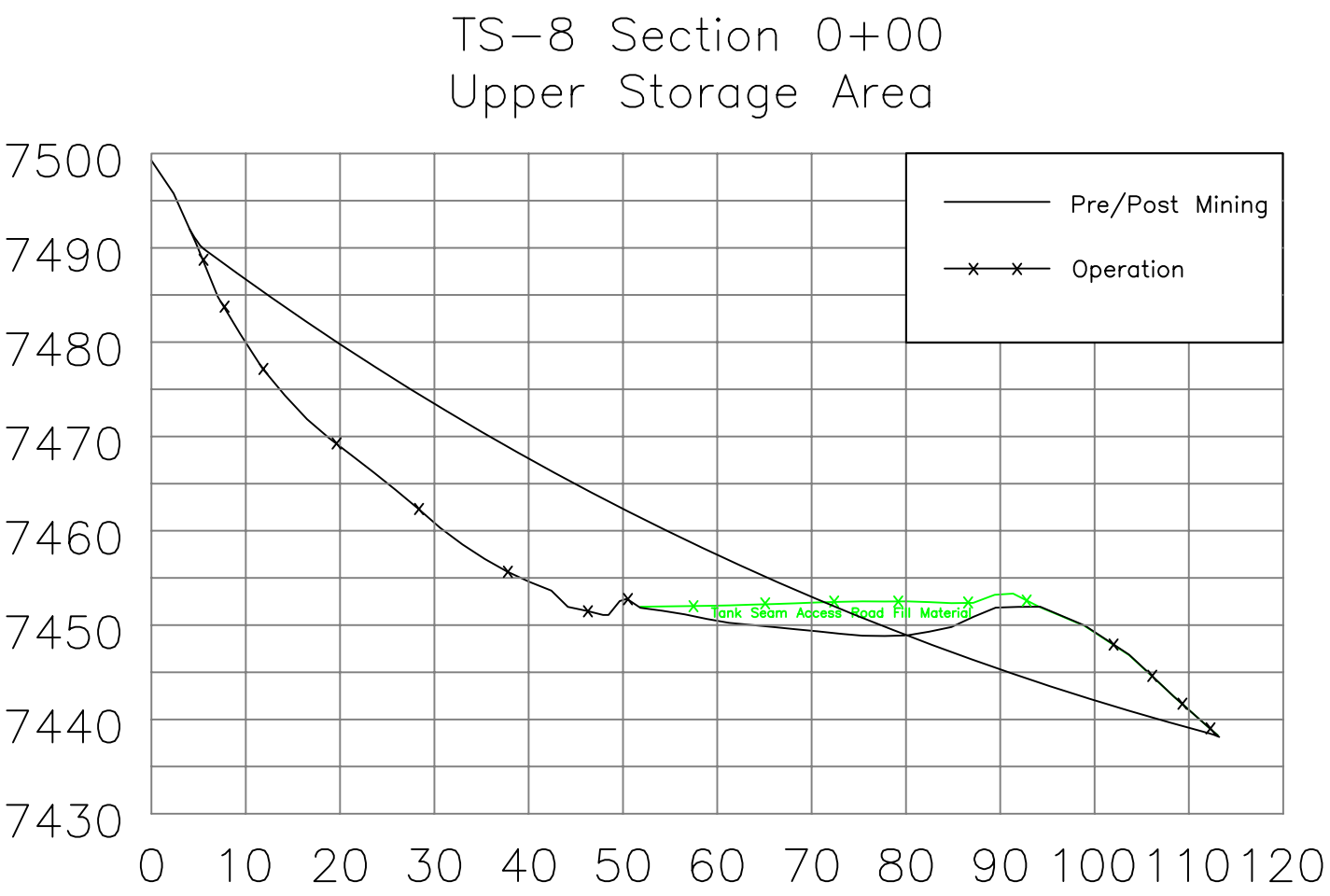

TS-7 Section 8+00
Operation
Pre/Post-Mining
Disturbed Boundary
7490
7480
7470
7460
7450
7440
7430
7420
10
20
30
40
50
60
70
80
90
100

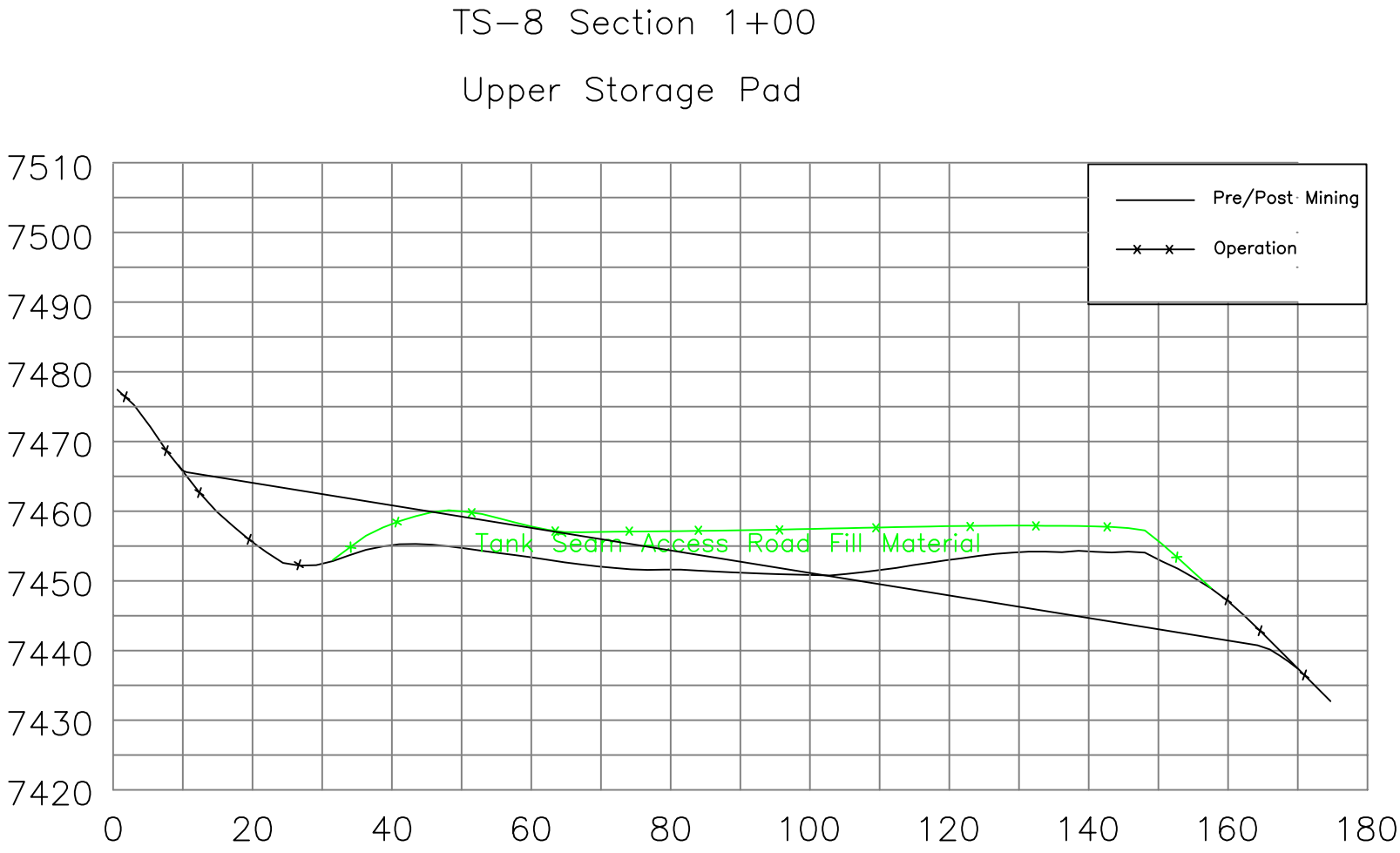
TS-8 Upper Storage Pad

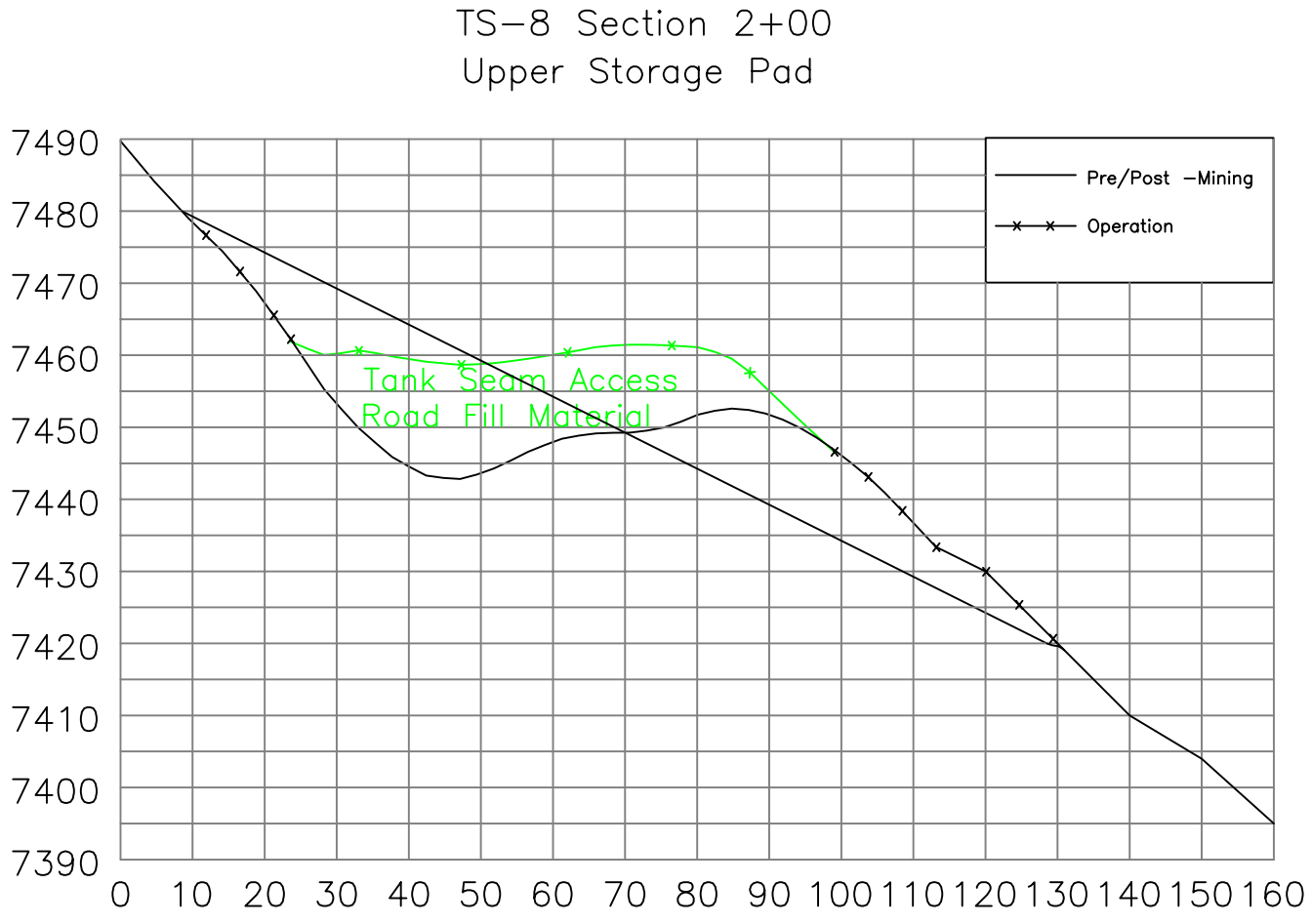
TS-8 will be reclaimed as shown on the following cross-sections. The soil labeled as Tank Seam Access Road fill material was not included in the calculations since it will be used while reclaiming the Tank Seam Access Road (Appendix 5-G). 1,000 yds³ of this material will remain in place as described on page 5G-10. A volume of 952 cu. yd. of fill material will come from TS-5 or TS-6. A summary of the cut and fill volumes is shown in Table 5I-7.

Table 5I-7 - Area TS-8 Cut & Fill Summary

	Fill (-) Volumes (cu. yd.)	Cut (+) Volumes (cu. yd.)			**Volume Cumulative (cu. yd.)**
Section	**Total Fill Volume**	Substitute Topsoil	Regular Soil	**Total Cut Volume**	
0+00	**2,100**	552	0	**552**	**-574**
1+00	**1,300**	1,463	7	**1,470**	**-404**
2+00	**2,218**	1,537	107	**1,644**	**-1,952**
Totals	**5,618**	3,552	114	**3,666**	


TS-8 Section 0+00
Upper Storage Area
7500
7490
7480
7470
7460
7450
7440
7430
0
10
20
30
40
50
60
70
80
90
100
110
120
Pre/Post Mining
Operation
Tank Seam Access Road Fill Material


TS–8 Section 1+00
Upper Storage Pad
7510
7500
7490
7480
7470
7460
7450
7440
7430
7420
0
20
40
60
80
100
120
140
160
180
Pre/Post Mining
Operation
Tank Seam Access Road Fill Material


TS-8 Section 2+00
Upper Storage Pad
7490
7480
7470
7460
7450
7440
7430
7420
7410
7400
7390
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
Pre/Post -Mining
Operation
Tank Seam Access
Road Fill Material

TS-9 Sediment Pond C and Bathhouse Pad

The material generated for the bathhouse parking area will be used as fill material for Sediment Pond C and the ditch leading from the Bathhouse Pad to Sediment Pond C. The 1,200 cu. yd. topsoil stockpile created during the construction of the bathhouse pad will be used in conjunction with the substitute topsoil generated from the bathhouse pad.

Table 5I-8 - Area TS-9 Cut & Fill summary

	Fill (-) Volumes (cu. yd.)			Cut (+) Volumes (cu. yd.)			**Volume Cumulative (cu. yd.)**
Section	Topsoil	Substitute Topsoil	Regular Soil	Topsoil	Substitute Topsoil	Regular Soil	
D-D	1,200*	1,762	2,899*	1,200	2,561	2,128	**28**

* It was assumed that sediment Pond C would contain 98 cu. yd. of sediment at the start of reclamation. 1,200 cu. yd. of material will come from the Wild Horse Ridge topsoil stockpile, which was originally recovered from the Bathhouse Pad.

SECTION D–D

SEDIMENT POND "C"

PRE–MINING/POST–MINING

OPERATION